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EXCHANGE RATE POLICY IN A SMALL OPEN ECONOMY
AN EXAMINATION OF IRISH EXPERIENCE

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ABSTRACT

The paper looks at Irish exchange rate policy since 1979 when the Irish Pound joined the EMS The paper argues that a fixed exchange rate link is the optimal approach for an economy such as Ireland As the bulk of Irish foreign trade is with non EMS member countries some questions arise as to the appropriateness of the target chosen There have been significant shifts in the pattern of trade and in the structure of Irish industry since EMS entry It was not possible to establish that these were a direct consequence of the exchange rate policy pursued given the nature of the data available It appears that EMS membership may not have been responsible for the drop in the inflation rate which has frequently been attributed to membership and was a primary consideration behind the decision to join Despite its limitations it is not clear that a superior exchange rate target is available

1 INTRODUCTION

Following the establishment of the European Monetary System (EMS) in 1979 the 150 year old, one for one, no margins exchange link between the Irish pound and sterling came to an end The decision to join the EMS, therefore, represented a fundamental shift in Irish exchange rate policy This paper examines the implications of that change

It was claimed during the debate on the Currency Bill in 1927 that there were 'only two national calamities that we have been spared from One was an earthquake and the other a rate of exchange' (Meenan 1970, p 362) Sixty years later, we can claim some experience of both these phenomena The earthquake, felt along the East coast a few years ago, certainly did not prove calamitous but the same may not be true of the rate of exchange

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The EMS link has resulted in considerable fluctuations in the exchange rate against the currencies of our main trading partners Such movements pose obvious problems for such trade Against this the primary argument in favour of membership was the belief that it would result in lower domestic inflation and interest rates with consequent beneficial effects on the economy It is not clear that it has been successful in this respect

The paper may be divided into two parts The first considers the appropriate role of exchange rate policy in an SOE such as Ireland by looking at the experiences of a number of similar economies The results suggest that maintenance of a fixed exchange rate against its major trading partner(s) is the correct approach for an SOE The Irish authorities have always adhered to such a target However, the target was substantially altered in 1979 by the decision to join the EMS Questions arise as to the appropriateness of the EMS target given the composition of Irish foreign trade The second part of the paper examines the new exchange rate regime

In examining exchange rate policy in SOE's four different cases are considered While policy in each of the countries looked at underwent some change over time the four cases may be broadly classified as follows

(i) Floating Exchange Rate - Canada,

(ii) Fixed Exchange Rate - The Netherlands,

(iii) Fixed but adjustable Exchange Rate - Sweden,

(iv) Combination of these - New Zealand

As the analysis of these economies indicates that a fixed exchange rate link is the correct approach for an SOE the assessment of Irish exchange rate policy is really concerned with the issue of the target chosen, rather than with the actual policy stance Two issues arise in this context The first concerns the behaviour of the actual exchange rate and the second the impact of exchange rate changes on the economy

2 THE ROLE OF EXCHANGE RATE POLICY

Greater attention has focused on the role of exchange rate policy in SOE's since the break up of the international monetary regime in the early seventies The system which emerged at the end of the Second World War was envisaged as one of fixed, but adjustable, exchange rates (Krueger 1983 p 3) Countries could adjust their exchange rate when in a "situation of fundamental disequalibrium" thereby avoiding problems of high domestic unemployment The system sought to prevent countries from undertaking competitive devaluations to improve their own positions at the expense of others According to Corden (1985) it was in fact a system of reluctant exchange rate adjustments

The fixed exchange rate commitment was seen to prevent the monetary authorities in SOE's from exercising any control over the domestic money supply In the case of an open economy the money supply is the sum of foreign exchange reserves and domestic credit Under a fixed exchange rate the monetary authorities could control domestic credit but not the level of foreign exchange reserves as they were required to buy and sell such reserves to maintain the exchange rate

Canada was unique among OECD countries in adopting a floating exchange rate from 1950 to 1962 This decision was justified by Canada's need for some degree of monetary independence given it's close proximity to the massive US economy The relationship between the two economies is similar in many respects to that of Ireland and the UK and has been described by former Prime Minister Trudeau as like "sharing a bed with an elephant, however good relations were, even a slight movement of the partner could cause a disaster" (Foreman-Peck 1983, p 344) Similar considerations led to Canada being the first OECD member to abandon the fixed exchange rate regime in the Spring of 1970 The objective was to allow a more expansionary monetary stance to combat rising unemployment A number of countries followed the Canadian example for similar reasons

At the time of the Canadian decision to float the 'economics profession was overwhelmingly of the view that flexible exchange rates would be vastly superior to fixed exchange rates' (Krueger op cit , p 4) Fears that floating exchange rates could have an adverse impact on World trade by giving rise to uncertainty were discounted by the view that exchange rate movements under floating would prove relatively minor Fixed exchange rates were finally abandoned in 1973 Differing policy responses to the upsurge in inflation in OECD countries led to a situation in which nominal exchange rates had to diverge (Corden op cit , p 139)

However, the expansionary policies of the early seventies soon ran into difficulties According to Brittan (1983, p 93) "the balance of payments crisis seen at the time as irritating obstacles to growth, were in fact the way in which inflationary policies became visible under fixed exchange rate regimes" Indeed rather than stimulating output and employment the expansionary stance of the early seventies was seen to result in an acceleration of the inflation rate The average annual inflation rate for the OECD area during the 1973-'79 period was more than 3 times that experienced during the nineteen sixties while growth in real GDP was reduced to little more than half that of the earlier period (see Table 1)

Table 1 Inflation and Growth Rates

	Annual % Change					
	Real GDP			Consumer Prices		
	1960- 68	1968- 73	1973- 79	1960- 68	1968- 73	1973- 79
US	4 5	3 3	2 6	2 0	5 0	8 5
Canada	5 6	5 6	3 4	2 4	4 6	9 2
EEC	4 6	4 9	2 4	3 6	6 1	11 1
OECD	5 1	4 8	2 7	2 9	5 6	10 0

Source OECD (1986 a)

This experience led to a substantial re-appraisal of economic policy in many OECD countries Keynesian style demand management policies were seen to have failed In the long run, it was argued, economic growth required that inflation be curbed A floating exchange rate was seen to provide an open economy with a means of insulating itself from foreign inflation

While the new policy stance rejected a considerable part of Keynesian thinking, the latter point is in keeping with views expressed by him some fifty years earlier Writing on monetary policy he argued that, "If therefore, the external price level remains outside our control, we must submit either to our own internal price level or to our exchange being pulled about by external influences If the external price level is unstable, we cannot keep both our own price level and our exchanges stable And we are compelled to choose" (Keynes 1923, p 170)

The neo-classical approach of the seventies suggested that reducing the growth rate of the money supply was the key to lowering inflation The authorities could, it was argued, reduce the adverse impact of tighter monetary policy on output and employment by providing other economic agents with clear signals of their intentions This could be done by setting targets for the growth of one or more of the major monetary aggregates where a stable relationship was seen to exist between their growth rate and that of nominal GNP

3 OVERSEAS EXPERIENCE

(i) Canada

Canada was one of the first OECD economies to embark on such a strategy despite the fact that the Canadian authorities were initially slow to respond to the upturn in inflation in the early seventies It was feared at first that a tighter monetary policy could lead to a rise in the exchange rate vis-a-vis the US,

which would have adverse consequences for firms in the traded sector There was, in addition, a failure to appreciate that increased unemployment reflected structural changes in the labour market (Bank of Canada (BOC) 1980, p 7) However, in 1975 the Bank of Canada announced that reducing inflation was the major policy objective and that this entailed reducing the growth rate of the money supply 'to a rate approximately in line with sustainable real growth in the economy' (OECD 1985 a, p 87) M1 was chosen as the monetary target on the basis that there existed 'a fairly stable relationship between fluctuations in M1 and total domestic expenditure' and because it was felt that M1 could be steered along a target path more readily than the larger monetary aggregates (BOC 1981, p 25)

However, monetary targets proved difficult to achieve The authorities responded initially by monitoring a wider range of monetary indicators Financial innovations stemming from high interest rates increasingly distorted the performance of the monetary aggregates and when M1 growth dropped below its target floor in 1982 the Bank of Canada concluded "Over the past two years the relationship between M1 and economic developments has become so distorted that M1 can no longer be taken at its face value, it requires so much interpretation that it is no longer suitable for use as a monetary target" (BOC 1982, p 27) The authorities considered revising the M1 target or adopting an alternative but neither option was regarded as viable Monetary policy remained restrictive

Attempts to curb inflation by means of a tight monetary stance were seen to be undermined by currency depreciations relative to the US dollar Consequently in 1978 there was a shift in policy to one of avoiding further sharp falls in the bilateral exchange rate although monetary targets were retained Avoiding sharp declines in the exchange rate became the primary policy objective following the abandonment of monetary targets, signalling, in effect, a switch from a monetary to an exchange rate target No formal target for the exchange rate has ever been set and it has in fact fluctuated around a downward trend since the end of 1983 This continued depreciation is seen to have impeded progress toward the reduction of inflation (see BOC 1986, p 19)

Adherence to the exchange rate target has posed significant problems due to the strength of the US currency and frequent speculative action against the Canadian dollar The focus of attention on the US has allowed substantial swings in the real exchange rate against other currencies resulting in a large trade surplus with the US and a deficit with the rest of the world

Speculation against the currency has frequently been prompted by short term considerations Fears that any depreciation relative to the US dollar would increase inflationary expectations, thereby generating further speculative flows, have prompted the authorities to push up interest rates on such occasions to defend the currency and signal clearly their intention to resist

inflationary pressures This has raised doubts as to whether an independent monetary stance is an option "which was, and still is, open to the Canadian authorities" (OECD 1986 c, p 44)

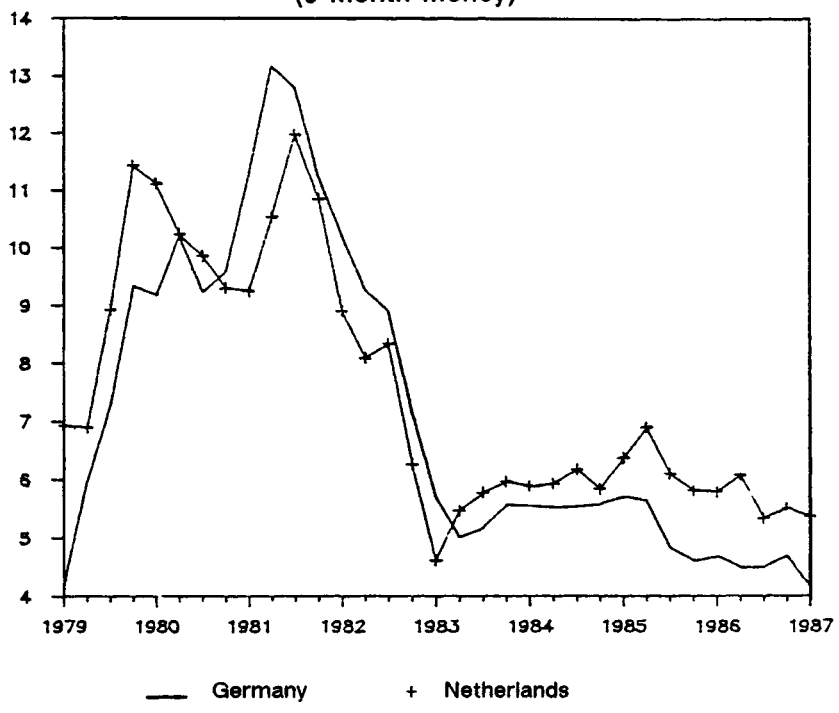
(ii) The Netherlands

The Dutch experience has been in marked contrast Following the shift to floating rates the Dutch authorities linked the Guilder to the DM Given the economy's high dependence on Germany and the fact that the authorities there have been committed to stable anti-inflationary policies since the early seventies, such a target was seen as a logical means of lowering inflation in the Netherlands The Guilder has moved in line with the DM since, apart from certain minor realignments The most important of these involved the decision not to revalue against the ECU in line with the DM at the March 1983 EMS realignment

This decision subsequently proved costly as the authorities' commitment to the exchange rate target was called into question As a result Dutch interest rates remained somewhat higher than those in Germany for some time afterwards This contrasts with the 3 years prior to the realignment when rates in Holland were lower than those in Germany (see fig 1)

Fig 1 Interest Rates

(3 Month Money)



Source Deutsche Bundesbank

For the most part the Dutch authorities have made it clear that their commitment to maintaining the exchange rate with respect to the DM takes precedence over other considerations Monetary policy has played a subsidiary role while the exchange rate has acted as a signal of the policy stance (OECD 1985 a, pp 97–104)

(iii) Sweden

The Swedish authorities also opted to link their currency to the DM in the early seventies Unlike their Dutch counterparts they were not prepared to accept the tight monetary stance required by the exchange rate target preferring instead a more expansionary approach which aimed at stimulating employment As a result the Krona was devalued in 1977 and the exchange rate was fixed in terms of a trade weighted currency basket The Krona was subsequently devalued on a number of occasions between 1977 and 1982

From the mid-seventies onwards rising external imbalances and a declining exchange rate caused a gradual shift in stance As in the Canadian case exchange rate stability was seen as essential in order to avoid a disruption of foreign trade and to reduce inflation With greater emphasis being placed on the exchange rate target monetary policy has assumed the subordinate role of protecting the level of the external reserves (ibid, pp 104–112)

Table 2 Annual Inflation Rates

	Annual % Change							
	1979	1980	1981	1982	1983	1984	1985	1986
Germany	4 7	5 5	6 3	5 3	3 3	2 4	2 2	- 0 2
Netherlands	7 2	6 5	6 7	6 0	2 8	3 3	2 3	0 2
Sweden	9 8	13 7	12 1	8 6	8 9	8 0	7 4	4 3

Source OECD (1986 b and 1987 c)

As a result of the soft currency policy adopted inflation in Sweden remained significantly higher than in Germany in contrast with the Netherlands Interestingly Sweden has tended to have lower levels of unemployment than most OECD economies

The "soft currency" regime came to an end following a large devaluation in 1982 Since then there has been a significant improvement in economic performance A tightening of monetary policy in response to capital outflows in early 1985 and lower oil prices resulted in a sharp drop in inflation in 1986

and a narrowing of the interest rate differential relative to the currencies in the trade weighted basket (OECD 1987 a) However, domestic cost pressures continue to pose problems and unless contained may force a return to a "soft currency" regime undermining many of the gains of recent years

(iv) New Zealand

Policy in New Zealand was characterised by frequent shifts in stance as the authorities were unwilling to accept the high domestic interest rates implied by tight monetary policies given the large public sector deficits The effectiveness of monetary policy was greatly reduced as a result and accommodated domestic inflationary pressures

The approach proved inconsistent with exchange rate stability Following frequent devaluations during the seventies a "crawling peg" exchange rate mechanism was adopted in 1979 whereby the exchange rate target was set in real rather than nominal terms The nominal rate was adjusted on a monthly basis taking account of inflation differentials between New Zealand and its main trading partners The objective was to maintain the competitive position of the traded sector In fact this represented 'a final closure of the network of indexed relationships' (OECD 1980, p 26)

Between 1979 and 1982, when the "crawling peg" was abandoned, inflation averaged 15 6 per cent annually while the exchange rate declined at an annual rate of almost 6 per cent This was followed by a return to a system of occasional step adjustments Following the election of a Labour Government in July 1984 the currency was devalued by 20 per cent

The new administration embarked on a radical programme to restructure the economy As part of this package exchange controls were abolished at the end of 1984 and the currency was floated the following March It was felt that a floating exchange rate would assist the process of structural adjustment, by eliminating internal price distortions, far better than would an administered rate The float has been accompanied by a tight monetary stance and measures to reduce the sizeable fiscal deficit The combination of large public sector borrowing and tight monetary policies has led to high real interest rates Prior to floating the currency was regarded as overvalued but high interest rates have prevented any significant depreciation

"Experience so far indicates that free floating may entail substantial fluctuations of both nominal and real exchange rates Given the recent volatility of major currencies, even a stable effective rate for the New Zealand dollar would have implied substantial fluctuations in bilateral exchange rates" (OECD 1987 b p 40) Exchange rate appreciation during 1985 and towards the end of 1986 is seen to have contributed to a drop in inflation but has posed problems for traded goods producers

(v) An Overview

The New Zealand decision to float is at variance with the general international trend Padoa-Schioppa (1984, p 159) reported that SOE's have tended to keep their exchange rates closer to the fixed end of the spectrum Soderstrom (1985) in a study of exchange rate policies in 8 European SOE s including Holland and Sweden reported that 7 of them chose to have some kind of "pegged rate" although "for some of the countries the peg turned out to be quite adjustable" (p 244) Larger economies such as France, Italy and more recently the UK have all come to place greater emphasis on exchange rate stability than was the case in the seventies

Two main reasons for this can be identified Firstly many countries which adopted monetary targets found that the targets were difficult to achieve Australia, which along with Canada was among the first OECD countries to adopt monetary targets, had to abandon its targets in 1983 because of a collapse in monetary velocity (see OECD 1985 b, p 24) Closer to home the UK authorities frequently failed to hit their stated monetary target for similar reasons Goodhart (1986) argues that tighter monetary policies were a cause of the financial innovations which undermined monetary targets Interestingly there are signs that the stable relationship between certain monetary aggregates and overall economic activity in Canada are beginning to re-emerge (BOC 1985, p 25)

In addition the experience of floating shows that "rates have fluctuated rather more than anticipated by the proponents of the flexible rate system" (Krueger op cit , p 5) Short term exchange rate volatility if anything has tended to increase and shows little sign of coming to an end Traditionally such variability has been the main focus of arguments against flexible rates on the basis that it adversely affected trade by generating uncertainty Crockett and Goldstein (1987, p 3) question this view on the grounds that under more rigid exchange rates, disturbances would be transferred to other markets or would induce limitations on trade and capital flows all of which could prove more costly Interestingly many econometric studies of trade behaviour under floating exchange rates failed to discern any systematic relationship between measured exchange rate volatility and trade volumes (Bank of England (BEQB) 1984, p 348) However, a study of US and German trade by Akhtar and Hilton (1984) supports the view that exchange rate uncertainty had an adverse impact on trade

More recently according to Ungerer et al (1986, p 17) concern has focused on the existence of persistent and substantial deviations (overshooting or misalignments) of real exchange rates from their long-run equilibrium values Such misalignments are seen to have adverse effects on the real economy by distorting resource allocation, generating "boom and bust" cycles and encouraging protectionism (Crockett and Goldstein op cit , p 4)

Overshooting is attributed to large capital flows frequently prompted by short term considerations These cause asset markets to adjust more rapidly to disturbances than do labour and goods markets thus causing real exchange rates to diverge from their equilibrium levels Misalignments of major exchange rates are also attributed to policy inconsistencies among major economies (ibid, p 1)

Although the problem is well recognised the actual extent of overshooting is less clear Shifts in real exchange rates from a former equilibrium may occur because of structural changes in economies This raises the question as to how such changes may be distinguished from overshooting

Overshooting is also seen to limit the degree of insulation supposedly provided by flexible exchange rates (Van Ypersele 1985, p 23) A country that attempts to reflate may find its inflation rate rising above its partners and allow its currency to depreciate But capital flows may then produce a further fall in the exchange rate which will add to domestic inflation by raising import prices, ultimately resulting in a vicious - inflation/depreciation - spiral It is fears of just such a spiral which caused the Canadian authorities to focus on the exchange rate target The danger is heightened by the fact that exchange rate movements are seen to feed quickly into the price level (Padoa-Schioppa op cit , p 159) The experience of Canada, Sweden and New Zealand tend to support this

The dependence of SOE's on trade makes them especially vulnerable to the adverse effects of exchange rate fluctuations Many of the constraints on monetary policy are now seen to be as much related to the openness of national economies as to the exchange rate regime per se (Crockett and Goldstein op cit , p 9) In addition as Black (1986, p 218) has pointed out, "The discipline of a pegged exchange rate can be important, especially for countries whose monetary institutions are weak, perhaps also for those whose fiscal institutions are weak' The latter observation may be particularly relevant in the Irish context

It seem reasonable to conclude therefore that a fixed exchange link represents the optimal policy approach for an SOE The exact form which that link should take will depend on the circumstances of a particular economy

4 IRISH EXCHANGE RATE POLICY

The one-to-one no margins exchange link between the Irish Pound and sterling, the currency of Ireland's main trading partner lasted from 1826 to 1979 When sterling was floated in the early seventies the Irish authorities announced that the exchange link would be maintained "to ensure that the sterling cost of Irish exports or tourism should not be increased at the present

time' (CB 1972, p 47) Consequently Ireland did not participate in the European Currency arrangements known as "the snake" when the UK left the system after a brief membership

By the time establishment of the EMS was mooted, official thinking had changed Irish inflation was seen as being primarily externally determined EMS membership was seen to provide an opportunity to link the currency to a low inflation regime thereby lowering domestic inflation The authorities decided to join the new system despite the UK decision not to take part

This therefore, represented a major shift in Irish exchange rate policy The extent of the change is best illustrated when one considers that at the time EMS countries accounted for roughly 30 per cent of Irish foreign trade Membership therefore involved having a flexible exchange rate with respect to our major trading partners The potential risks involved in such a strategy certainly appear to have been recognised at the time the decision was taken The 1978 White Paper on the EMS states that "membership might not, however, in practice involve a divergence from one-for-one parity with sterling for some time at least, depending on the degree of success of the United Kingdom Government with regard to maintaining the exchange stability of sterling, and particularly to the extent that this is reflected in stability vis-a-vis EMS currencies" (p 18)

5 THE IRISH POUND IN THE EMS

In analysing the behaviour of the exchange rate within the EMS we need to distinguish between short and long run movements (volatility and misalignments)

(i) Volatility Experience elsewhere suggests that exchange rates have proved extremely volatile since the collapse of Bretton-Woods In Table 3 evidence on the extent of volatility of the Irish pound with respect to EMS members is presented Several indicators of volatility are used based on data compiled by Ungerer et al (op cit)

Table 3 Variability of Irish Pound against EMS Currencies

Variability of		Average 1974–'78	Average 1979–'85
(1)	Bilateral Nominal Exchange Rates	36 0	12 2
(2)	Log Changes of Bilateral Nominal Exchange Rates	18 4	6 7
(3)	Log Changes of Nominal Effective Exchange Rate	15 5	5 0
(4)	Bilateral Real Exchange Rate	27 6	15 7
(5)	Log Changes of Bilateral Real Exchange Rates	20 0	11 5
(6)	Log Changes of Real Effective Exchange Rates	16 8	10 2

In all cases the figures are a weighted average (using MERM weights) of average monthly exchange rates The measures of variability used are (a) the coefficient of variation in (1) and (4) and (b) standard deviations in (2), (3), (5) and (6) multiplied by 1,000 in all cases

Source Ungerer et al (op cit)

The figures indicate a significant decline in volatility with respect to other EMS currencies since the establishment of the system This is true for both nominal and real exchange rates Table 4 outlines the situation with respect to non EMS currencies

Table 4 Measures of Variability of Irish Pound Against Non EMS Currencies

Variability of		Average 1974–'78	Average 1979–'85
(1)	Bilateral Nominal Exchange Rates	37 0	47 9
(2)	Log Changes of Bilateral Nominal Exchange Rates	14 4	23 1

Source As for Table 3

Although only two indicators are given in this case they indicate a significant increase in volatility with respect to non EMS currencies Similar results are reported for other EMS currencies (ibid) prompting Van Ypersele (op cit , p 75) to describe the EMS as "an islet of monetary stability" This view is confirmed by a number of studies of exchange rate behaviour [See for example BEQB (op cit) and Atkinson and Chouraquai (1986)]

A major factor behind the increased volatility relative to non EMS currencies has been the sizeable fluctuations of both sterling and the dollar Together these currencies account for the major share of Ireland's foreign trade The internal stability of the EMS might not, therefore, be as beneficial for Ireland as for other EMS countries Certainly the results indicate that overall the Irish Pound exchange rate has been extremely volatile an observation confirmed by Walsh (1986)

(ii) Long Term Misalignments Next we consider the issue of long run exchange rate shifts or misalignments The behaviour of the real exchange rate of the Irish pound since 1978 is described below The real exchange rate is defined as the nominal exchange rate adjusted for differences in national inflation rates The figures in Table 5 are based on annual changes in national consumer price indices

Table 5 IR £ Real Exchange Rate 1978 = 100

	1978	1979	1980	1981	1982	1983	1984	1985	1986
Sterling	100 0	95 9	89 1	86 1	94 1	100 6	102 8	103 3	115 8
US Dollar	100 0	108 7	113 7	97 6	94 4	89 0	80 8	80 7	103 2
DM	100 0	106 0	118 1	131 1	138 2	136 2	139 9	145 7	141 6
French Franc	100 0	103 0	106 8	114 1	127 5	130 6	131 9	132 0	130 4
Belgian Franc	100 0	107 9	119 7	133 2	155 7	156 6	157 5	158 5	154 9
Dutch Florin	100 0	108 2	119 2	132 5	138 0	139 0	142 8	148 9	143 8
Danish Krone	100 0	105 3	119 2	127 2	139 6	138 7	139 8	140 6	136 8
Italian Lire	100 0	103 1	104 0	108 9	115 1	109 0	107 6	110 5	107 4
Weighted Average									
EMS Countries	100 0	105 5	114 2	125 0	135 3	135 0	137 4	140 6	137 1
All Major Trading Partners	100 0	100 5	100 0	100 2	108 9	110 9	111 3	112 8	121 4

Source See Appendix

Year to year changes in the real exchange rate against all major currencies have been substantial There has been a consistent real appreciation against the DM and the EMS group of countries generally Commenting on this Van Ypersele (op cit , p 89) pointed out that the real exchange rate of the Irish pound had depreciated relative to the EMS currencies during the years prior to Irish entry although he concluded that this gap had closed by 1981 The real exchange rate against the EMS currencies has appreciated by a further 10 per cent since then This appreciation relative to EMS currencies was partly offset by declines against Sterling, up to 1981, and against the dollar thereafter The position with regard to Sterling is interesting Following substantial depreciations in the first two years of membership we find that by 1983 the real exchange rate had returned to its pre EMS level and remained there until 1986 when there was a sizeable appreciation

It appears that there has been a persistent misalignment relative to EMS currencies, despite the quasi-fixed exchange link The figures also suggest a misalignment relative to the dollar However, Sachs (1986) argues that "The evidence suggests that most, if not all, of the appreciation of the dollar has been tied to fundamentals or has at least been consistent with the developments in other asset markets, particularly the bond market" (p 338) He goes on to conclude that speculative bubbles "probably help to explain some short-term volatility of exchange rates rather than persistent deviations from PPP over a period of several years" (ibid)

The position with respect to Sterling is even less clear Movements in the real exchange rate against Sterling have been short lived The depreciation of that currency during the 1979-1981 period can be ascribed to the UK's status as an oil producer while sterling's decline in 1986 can be attributed to the drop in oil prices Such movements against sterling may well therefore reflect shifts in economic fundamentals rather than misalignments in the exchange rate This is an issue to which we shall return

If we look at the real exchange rate relative to all our major trading partners again the figures suggest a substantial misalignment of the Irish pound

Questions may arise concerning the use of consumer price indices to calculate the real exchange rate The exercise was repeated using wage inflation data and the results are given in Appendix 1 They are not very different except in the case of sterling

6 THE IMPACT OF EXCHANGE RATE POLICY

The impact of exchange rate movements on the economy is now considered Such an assessment must consider several issues including

(i) the impact of exchange rate uncertainty on trade

(ii) the impact of exchange rate misalignments on the real economy,

(iii) the effect of exchange rate movements on inflation and

(iv) their effect on interest rates

(i) Trade and Exchange Rate Uncertainty

As pointed out exchange rate uncertainty is believed to have an adverse effect on international trade The Irish pound has certainly been extremely volatile since the establishment of the EMS Looking at the growth in Irish foreign trade since EMS entry does not suggest that exchange rate movements had any adverse impact

Table 6 Irish Foreign Trade

	Annual % Change - Volume	
	Imports	Exports
1971-'78	+ 6 2	+ 7 5
1978-'86	+ 3 0	+ 7 6

Source Review and Outlook (1987)

Export growth since joining the EMS has matched that of the pre EMS period Import growth has fallen sharply but this may be explained by the depressed level of domestic demand since 1980

In recent years global trade and output figures have become increasingly distorted by the performance of the 'high technology', chemical and electronics industries These sectors have few linkages with the rest of the economy and their performance is believed to be distorted due to transfer pricing

Table 7 Chemicals and Electronics Share of External Trade

	Percentage		
	Imports	Exports	Total
1978	14 7	16 5	15 5
1979	14 5	18 2	16 1
1980	13 7	18 8	15 9
1981	15 2	23 2	18 6
1982	16 7	25 1	20 5
1983	19 4	27 7	23 4
1984	22 3	31 2	26 7
1985	22 2	33 2	27 8
1986	22 4	33 1	28 0

Source CSO, Trade Statistics

The proportion of trade accounted for by these sectors has increased dramatically since 1978 Their share of exports had doubled by 1986 They account for much of the growth in trade which has occurred over the period

Focusing on global trade figures may therefore be misleading However, if we wish to strip out these sectors the absence of price indices means that volume changes for the remainder of foreign trade cannot be calculated

Table 8 Distribution of Trade by Partner Country

	Percentage				
	UK	EMS	N America	Other	Total
1972	55 3	17 8	10 0	16 9	100 0
1978	48 4	25 0	8 5	18 1	100 0
1979	48 6	25 6	8 0	17 9	100 0
1980	47 3	25 1	8 6	19 0	100 0
1981	45 7	25 0	11 1	18 2	100 0
1982	43 8	26 1	11 5	19 6	100 0
1983	41 2	26 6	12 7	19 5	100 0
1984	38 7	27 7	14 5	19 2	100 0
1985	37 7	28 0	14 7	19 5	100 0
1986	37 7	29 9	13 2	19 2	100 0

Source As for Table 7

An examination of the geographical distribution of trade reveals a significant shift away from the UK with a corresponding growth in the importance of North America The EMS share has risen by a relatively modest amount compared with the 1972-78 period A better insight into what is going on may be obtained by looking at a more detailed breakdown of the figures (given in Appendix 2) The fall in the UK share is concentrated on the export side and cannot be attributed to a growth in "hi-tech" exports More generally increased trade in such products has had little impact on the geographical distribution of trade although it appears to account for part of the growth in exports to EMS countries

Turning back for a moment to the data on real exchange rates it is difficult to explain the shifts in trade in terms of changes in competitiveness (at least as measured by the real exchange rate) The shift away from the UK occurred in spite of a relatively modest real appreciation Besides the decline in the UK share can be traced back to 1979 when the Irish pound was depreciating relative to sterling In contrast trade with the EMS has increased in importance despite the substantial loss in competitiveness which has occurred

The possibility that the observed shifts in trade reflect exchange rate uncertainty is now examined This was done by estimating volume and price equations for manufactured exports similar to those of Akhtar and Hilton (op cit) These sought to isolate the impact of exchange rate uncertainty on manufactured trade using ordinary least squares The results are given in Table 9 below

Table 9 Impact of Exchange Rate Uncertainty on Manufactured Exports Results of OLS

(1)	QX =	1 475	+	0 923YF	-	0 035RELPX	-	0 043CUF	-	0 0835s
		(0 354)		(1 138)		(-0 158)		(-0 230)		(-0 707)
(2)	PX =	3 064	+	0 367PD	+	0 063PF	+	0 019CUF	-	009s
		(2 159)		(1 451)		(0 67)		(0 287)		(-1 87)

R^2 = 995 DW = 1 97

QX = Volume of Manufactured Exports
PX = Price of Manufactured Exports
YF = Income Abroad
RELPX = Relative price of exports (in foreign currency)
PD = Domestic manufactured output prices
PF = Foreign manufactured output prices (in local currency)
CUF = Measure of overseas capacity utilisation
S = Indicator of exchange rate uncertainty
T - Statistics given in brackets

Full details of sources and methodology are given in Appendix 3

They do not support the notion that exchange rate uncertainty had any significant impact on manufactured exports Given the shift in trade patterns this is perhaps surprising However, the test may have suffered from the inclusion of the "hi-tech" sectors which dominate manufactured exports However, it was not possible to exclude them from the equations for reasons given earlier

(ii) The Impact of Misalignments

The evidence presented earlier indicated that the Irish pound has experienced persistent misalignments since its entry to the EMS Soderstrom (op cit) argues that a real exchange rate appreciation would produce a squeeze on the tradable goods sector To see if this has in fact occurred trends in the relative size of the tradable sector are considered Industry as a percentage of GDP is used as an indicator of the size of the tradable sector and the results are given in Table 10

Table 10 Industry's Share of Gross Domestic Product

Percentage							
1978	1979	1980	1981	1982	1983	1984	1985
35 8	36 6	37 3	36 2	35 9	35 1	34 8	35 7

Source Derived from CSO (1986)

Admittedly the figures include some non non-tradable sectors such as construction There is little indication in the figures of a squeeze on the tradable sector The rise in share over the 1979-81 period and the subsequent decline reflect trends in construction activity

An examination of employment data reveals a slightly different picture Table 11 shows manufacturing industry's share of total employment declining since 1979 The table distinguishes between traditional and modern manufacturing sectors Given the level of aggregation involved this distinction is a little rough and ready Nevertheless some interesting features emerge

Table 11 Percentage Share of Total Employment

		1977	1979	1981	1983	1985
1	Food, Drink & Tobacco	5 5	5 2	5 0	4 8	4 2
2	Clothing, Footwear, Leather & Textiles	4 2	3 6	3 4	2 7	2 6
3	Wood	1 2	1 2	1 3	1 3	1 3
4	Paper & Printing	1 5	1 5	1 6	1 5	1 5
5	Glass, Pottery & Cement	1 2	1 5	1 4	1 2	1 2
6	Traditional Manufacturing (1-5)	13 6	13 0	12 7	11 5	10 8
7	Chemicals	1 8	2 0	1 7	1 8	1 7
8	Metals & Engineering	3 8	4 1	5 1	4 9	5 4
9	Other Manufacturing	1 9	2 0	1 4	1 3	1 2
10	Total Modern Manufacturing (7-9)	7 9	8 1	8 2	8 1	8 2
11	Total Manufacturing	21 1	21 1	20 9	19 6	19 0

Source CSO, Labour Force Surveys

The decline is concentrated in what may be termed the traditional manufacturing industries These figures are not proof of a squeeze on the tradable sector As Soderstrom (op cit) points out traditional manufacturing sectors were adversely affected by a relative price shift in the wake of the oil price shocks of the seventies as well as by shifts in the real exchange rate The figures indicate that exchange rate policy has not been used to protect such sectors against the price shock, a strategy which would only impede the structural adjustments necessitated by the oil price rise (ibid)

(iii) Inflation within the EMS

A major consideration underlying the Irish decision to join the EMS was the belief that it would bring the inflation rate down towards the levels prevailing in other EMS countries The inflation rate has, in fact, fallen sharply from 20 4 per cent in 1981 to under 4 per cent last year Can EMS membership, therefore, be seen as successful in this respect? According to de Grauwe (1986) there is 'no evidence that the decline in the inflation rates proceeded

more quickly inside than outside the EMS The earlier data on real exchange rates above indicates that inflation in Ireland has been significantly higher than that experienced in other EMS countries We can see this more clearly by expressing annual inflation rates in a common currency

Table 12 Annual Inflation Rates (Consumer Prices in IR £)

	Percentage Change					
	US	UK	IRELAND	GERMANY	NETHERLANDS	EMS*
1979	4 2	18 1	13 3	6 9	4 7	7 4
1980	13 0	27 3	18 2	6 1	7 3	9 6
1981	40 4	24 5	20 4	8 9	8 3	10 3
1982	21 0	7 3	17 1	11 1	12 4	8 3
1983	17 2	3 3	10 5	12 1	9 8	10 9
1984	19 6	6 3	8 6	5 7	5 7	6 9
1985	5 8	4 4	5 4	1 1	1 1	3 1
Average						
1979–'85	16 8	12 6	13 2	7 4	7 0	8 0

* Trade Weighted Average

Source Exchange Rates, Central Bank

Inflation Rates OECD (1986 b)

The Irish inflation rate over the period has been significantly higher than that in Germany after allowing for exchange rate movements The contrast with the Netherlands in this case in striking The average Irish inflation rate over the entire period is not significantly different from that in the UK (although there have been considerable differences in individual years)

The table only covers the period up to 1985 The results are not greatly changed by including 1986 data except in the case of the UK As already pointed out, however, the 1986 depreciation of Sterling may be explained by a change in underlying economic fundamentals Inclusion of the 1986 figures would therefore distort the picture

The tendency for Irish and UK inflation rates (after allowing for currency movements) to converge over the 1979–85 period raises some interesting questions In particular these results (and the real exchange rate figures for the same period) suggest some form of purchasing power parity (PPP) relationship between the two economies

Ordinary least squares were used to test for the existence of such a relationship The test used is based on that employed by Frankel (1981) and is described more fully in Appendix 4 The basic equation used is of the form

$$\ln Pt = a + b \ln \frac{(P^*)t}{S}$$

Where S represents the exchange rate and P and P* are domestic and foreign price indices

The results are given in Table 13

Table 13 Results of PPP Tests

	Independent Variable	Coefficient	T Statistic	R^2	Durbin Watson
1	UK Consumer Prices	1 02	22 00	0 94	0 37
2	UK Wholesale Prices	0 84	24 38	0 95	0 47
3	UK Wholesale Prices	0 83	25 46	0 96	0 47
4	German Consumer Prices	1 66	32 00	0 97	0 30
5	German Wholesale Prices	1 25	41 20	0 98	0 46

PPP would imply a coefficient of unity for the independent variable In the case of consumer prices the test yielded an acceptable coefficient using UK data In the case of UK wholesale prices and German consumer and wholesale prices the coefficient proved unsatisfactory In all cases, however the Durbin Watson statistic indicates the presence of serial correlation The Cochrane – Orcutt technique was applied to correct for this but this made the b coefficient insignificant Applying lags did not greatly alter the results

This test based on quarterly data is in effect a test for short-run PPP While the results may appear to discount such a relationship the real exchange rate data presented supports the existence of PPP in the long run Moreover the long run may amount to an interval of about 2 years Of course there are insufficient observations to run the test using annual data

These real exchange rate data raise doubts about the rationale underlying the decision to join the EMS In effect they suggest that Irish inflation is still primarily determined by UK inflation after allowing for currency movements The result is perhaps not all that surprising given the fact that more than 40 per cent of imports still come from the UK Indeed the figure rises to 45 per cent if the high technology industries are omitted

In their examination of Irish inflation within the EMS, Honohan and Flynn (1986) employed a model which suggested that Irish inflation was largely determined by inflation overseas The measure of foreign prices used in their model was a trade weighted average of prices in the UK, US and Germany in Irish currency terms Table 14 derives trade weights for these three countries The UK has by far the largest weight with Germany accounting for less than 15 per cent of the total Indeed the importance of the UK may be understated in the figures Given the low linkages that the 'high technology sectors have with the Irish economy their impact on domestic inflation may be quite small so that the US weight may be overstated at the expense of the UK

Table 14 Trade Weights

	Percentage		
	GERMANY	UK	US
1978	13 0	76 0	11 0
1979	12 6	76 5	10 9
1980	12 9	75 5	11 5
1981	13 2	72 0	14 9
1982	13 5	70 1	16 4
1983	14 4	66 9	18 7
1984	14 6	63 8	21 6
1985	14 9	62 9	22 2
Average 1978–85	13 6	70 5	15 9

Source CSO (op cit)

The above figures indicate that UK prices are the major input into the foreign price index used by Honohan and Flynn suggesting that in fact Irish inflation is heavily influenced by inflation in the UK Clearly such a relationship has significant implications for exchange rate policy as it undermines an essential consideration underlying the Irish decision to join the EMS

(iv) Irish Interest Rates

In addition to lower inflation rates it was hoped that EMS membership would bring Irish interest rates down towards the levels obtaining in Germany A look at Fig 2 shows that such hopes have not been realised Irish interest rates have remained well above German rates

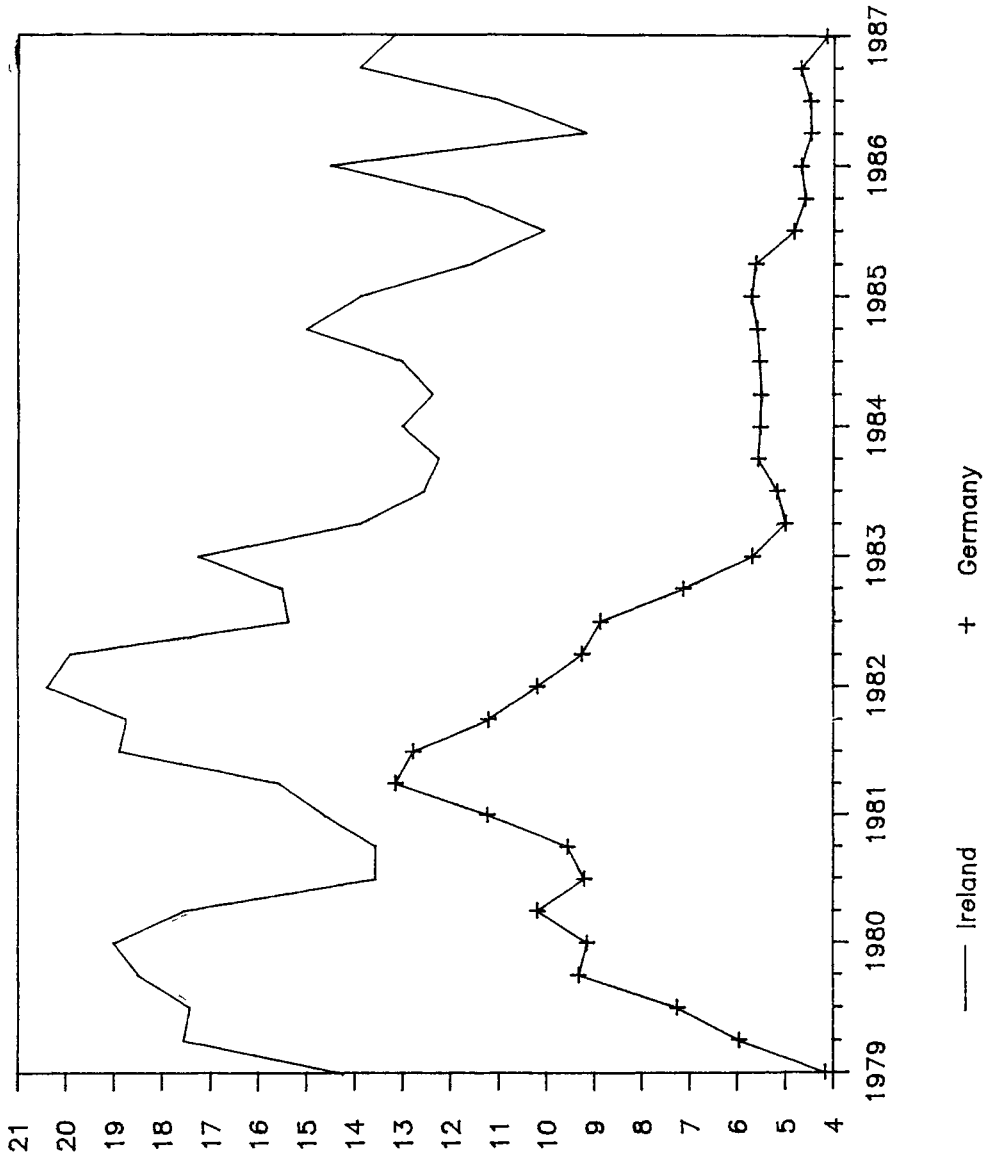
Prior to EMS entry Irish interest rates were determined principally by rates in the UK The close links links between the two financial markets ruled out any scope for interest rates to diverge to any significant extent (for a more detailed analysis see Brown & O'Connell, 1978) Irish entry to the EMS together with the imposition of exchange controls on transactions with the UK has brought an end to this relationship Fig 3 illustrates movements in Irish and UK interest rates over time

Since joining the EMS Irish interest rates have tended to be consistently higher than those in the UK Again such a result is at variance with expectations prior to entry

Despite lower interest rates in other EMS countries Irish companies may be unwilling to borrow in such currencies because of exchange risks Similarly such risks may deter overseas investors In the former case exchange control regulations prevent firms from switching out of such loans quickly thereby providing a further disincentive to borrow overseas This consideration would not apply in the latter case However, investors from other EMS countries must be satisfied that the Irish currency is unlikely to be devalued in the short run if they are to be attracted by higher Irish interest rates and thus force rates down It is also possible that the authorities have on occasion been unwilling to allow rates to fall below those in the UK for fear of causing an outflow of funds from the system If such fears are well founded then the implication is that Irish rates remain tied to those in the UK albeit with a margin reflecting exchange rate uncertainty

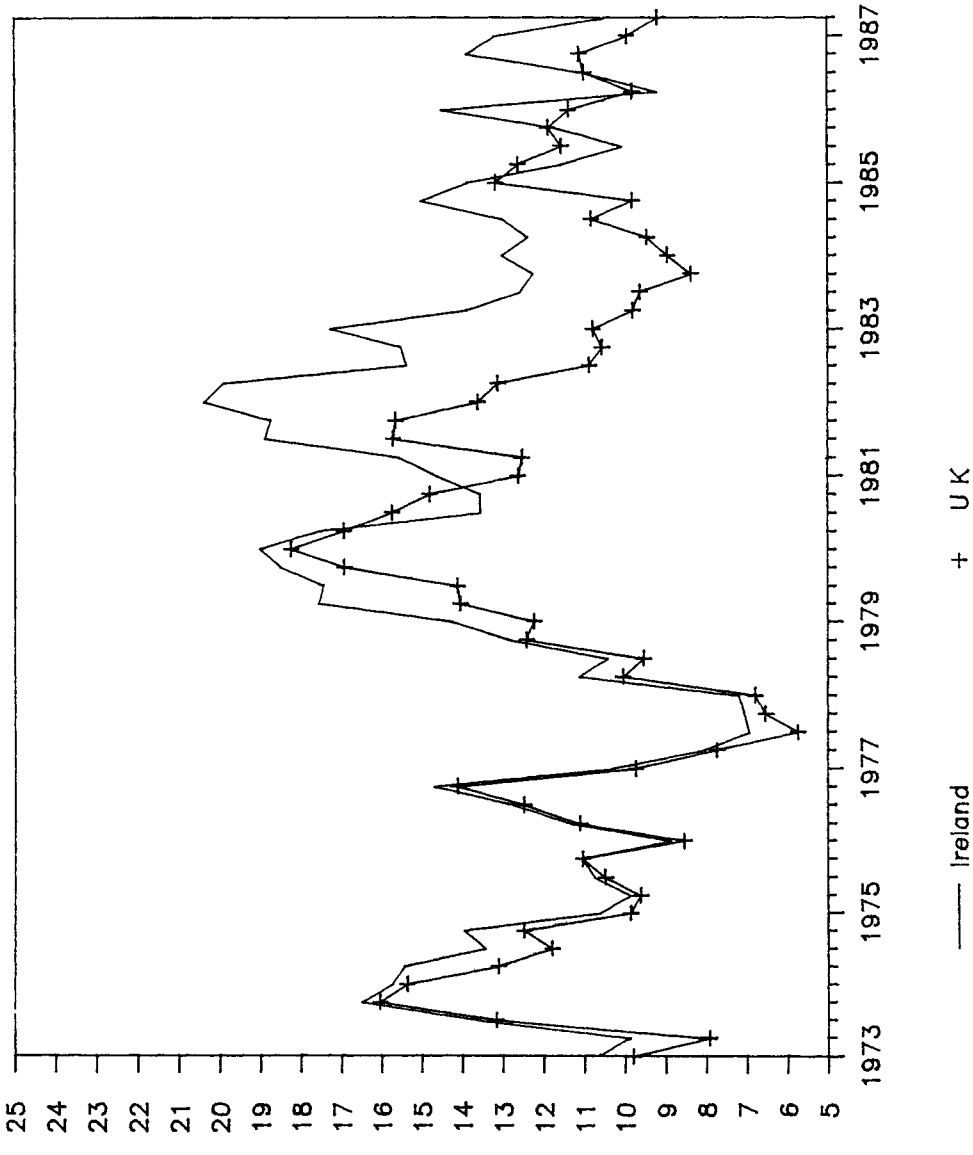
Whatever the reason Irish interest rates have remained higher than those in the UK However, allowing for inflation in both economies Irish real interest rates have been lower than those prevailing in the UK for much of the period since Ireland joined the EMS As Fig 4 indicates, this is somewhat at variance with the experience prior to EMS membership when real rates for the most part diverged very little from those in the UK Recurring bouts of currency speculation since late 1985 have caused real interest rates in Ireland to exceed those in the UK until quite recently

FIG 2 INTEREST RATES
(3 Month Interbank)



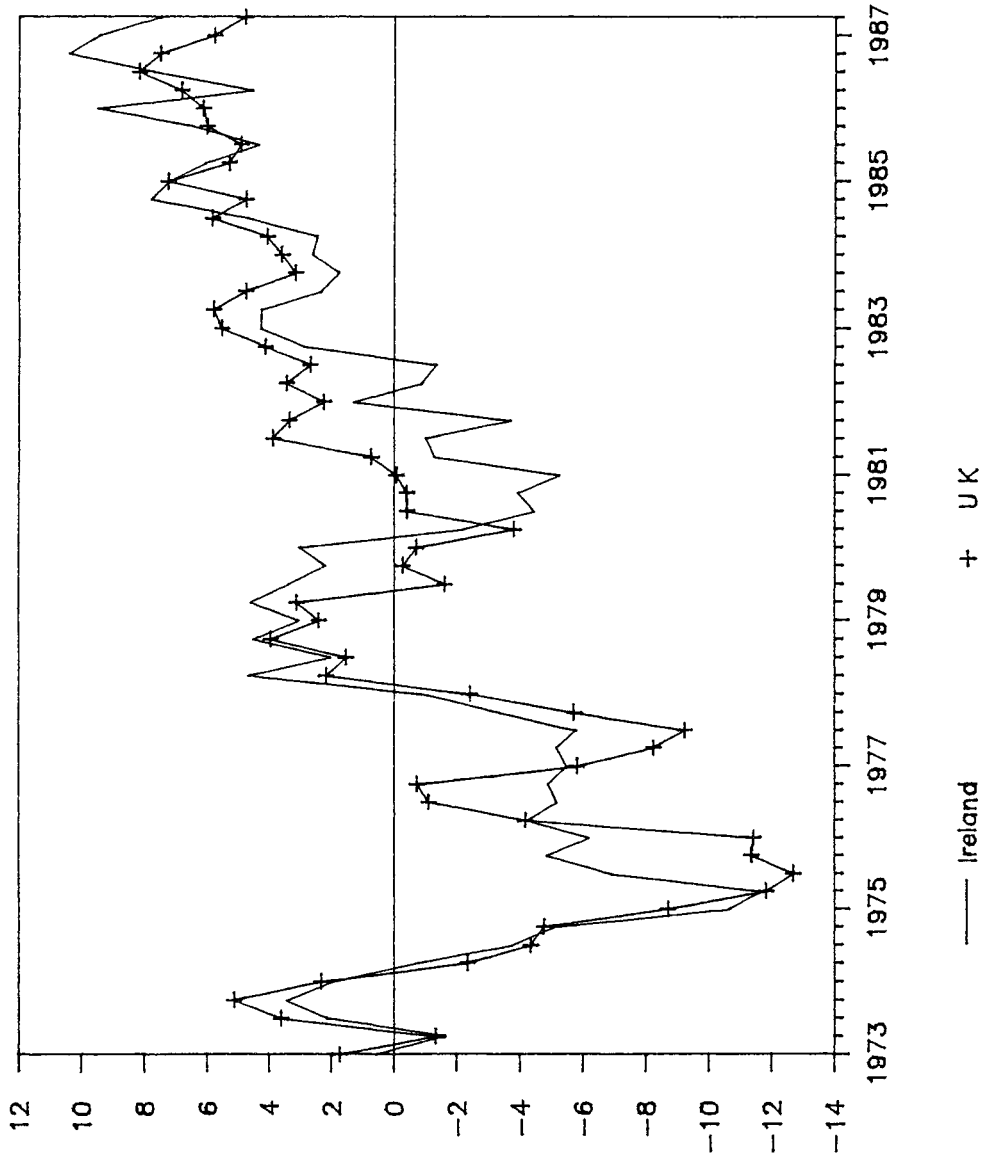
Source Central Bank Bulletins and Deutsche Bundesbank

FIG 3 3 MONTH INTERBANK RATES



Source Central Bank Bulletins and CSO (UK)

FIG 4 REAL INTEREST RATES
(3 Month Interbank Rates)



Source As for fig 3

7 THE 1986 DEVALUATIONS

Membership of the EMS always posed problems for Ireland by virtue of the fact that the UK, the country's major trading partner, is not a member of the system Such problems have become most acute when a depreciation in Sterling put pressure on Irish companies in traditional industrial sectors Such considerations prompted a devaluation of the Irish pound at the March 1983 re-alignment

A similar scenario emerged during 1986 and as a result the Irish authorities devalued by 1 per cent at the general re-alignment in April However, a sharp decline in Sterling in July was followed by a unilateral 8 per cent devaluation It was subsequently claimed that this measure was prompted by a sharp rise in the effective exchange rate index and not solely by the depreciation of sterling although such claims have been disputed (Dowling 1986)

Either way the August devaluation appeared to indicate some modification of the exchange rate target whether toward a trade weighted target or some form of sterling target in an EMS context Of course the latter target is difficult to achieve as long as sterling continues to float

This led to a short-term rise in interest rates to compensate for the perceived risk attaching to investing in the Irish currency This is likely to be repeated during any further bouts of sterling weakness

Secondly, there is a risk in that devaluations may be seen as a means of improving competitiveness Experience from New Zealand points to the dangers inherent in such a strategy Dornbusch (1982) argues that such an approach does not work while Honohan and Flynn (op cit) also argue against it If PPP does hold between Ireland and the UK then a devaluation will simply be offset by higher domestic inflation The shift to a less visible target in the form of a trade weighted index might also lead to looser domestic policies and a steady depreciation of the currency as happened in Sweden during the late seventies

It is worth recalling the sentiments expressed in the White Paper on EMS membership (op cit , p 11) 'Under the system as proposed Ireland could, of course, devalue, but this would be inconsistent with its basic aim of monetary stability Devaluation particularly if repeated, would call into question the credibility of Ireland's continued membership of the system Departure from the system in such circumstances would cause Ireland major problems, and would weaken the system as a whole' Apart from the final sentiment it is difficult to disagree with such conclusions

8 SOME CONCLUSIONS

The case presented here argues that an SOE like Ireland should maintain a fixed exchange rate link with a larger economy In this respect Irish exchange rate policy has been correct The question then boils down to one of the target to be followed

The EMS target was chosen on the premise that it would reduce domestic inflation and interest rates The evidence presented here suggests that this is not what has happened The target involves potential costs as exchange rate movements against our major trading partners may have a disruptive impact on the economy The evidence in this case is less conclusive Certainly there have been significant shifts in Ireland's foreign trade coupled with changes in the structure of manufacturing industry but we cannot conclude that these were a direct consequence of the exchange rate strategy pursued

The most viable alternative to a continuation of the EMS link would be a return to some form of sterling link This does not of course imply a return to parity Such a change would entail some costs in the form of higher interest rates at least in the short term as financial markets would need convincing of the authorities commitment to the new target If sterling were to prove as volatile in the future as it has since 1979 then such a strategy would expose us to the kind of problems experienced by Canada since its switch to an exchange rate link with the US dollar

A further difficulty arises from the fact that whereas we currently have a floating exchange rate against currencies accounting for 70 per cent of our trade a link with sterling would only reduce this ratio to 60 per cent Even if the break with Sterling did in fact have a disruptive effect on industry restoring the link might not reverse this Would this gain be worth the potential costs involved? The picture might change if exchange rate policy was found to have little impact on the high technology industries (e g if cross border transactions between multinationals use a common currency)

A second option would entail some modification of the EMS link with re-alignments of EMS parities in order to keep the sterling or trade weighted exchange index within a certain range The 1986 devaluations suggested such a change but the present administration appears to be set against it The rationale for such a strategy is that we cannot afford to be indifferent to the sterling exchange rate

Misalignments against sterling have not persisted although short-run swings have been considerable and quite possibly disruptive Exchange rate adjustments to maintain competitiveness relative to the UK could easily result in what Soderstrom (op cit) described as "exchange rate protection" where devaluations are used to try and protect firms whose problems are not really attributable to exchange rate movements at all The adoption of such a "soft currency" option would be undesirable

A more fundamental problem arises in that maintenance of a link with a floating currency like sterling is incompatible with membership of a fixed exchange rate regime such as the EMS This appears to rule out such a half way house arrangement and reduce the options to two with adherence to a fixed EMS link i e commitment to maintenance of the IR £/ECU rate as the better option

Admittedly as long as the UK remains outside the EMS, and despite expectations there is little indication of any change following the general election there, membership will pose problems for Ireland These are likely to be most acute whenever sterling weakens as traditional industries come under pressure from UK competitors The fact that the UK authorities have, of late, come to focus greater attention on maintenance of a more stable exchange rate may ease such difficulties in the future

In arguing for a continuation of the fixed exchange link with the EMS one is really advocating continued adherence to a "hard currency" policy The main attraction of such a target may best be summarised in the words of John Maynard Keynes (op cit , p 177) who although not necessarily a supporter of hard currency policies showed himself all too aware of the dangers of the alternatives when he wrote

"The present state of affairs has allowed to the ignorance and frivolity of statesmen an ample opportunity of bringing about ruinous consequences in the economic field It is felt that the general level of economic and financial education amongst statesmen and bankers is hardly such as to render innovations feasible or safe and that, in fact, a chief object of stabilising the exchanges is to strap down Ministers of Finance "

Appendix 1

Irish Pound Real Exchange Rate

The real exchange rate is defined as the nominal exchange rate adjusted for differences in national inflation rates It was calculated using the formula,

$$E^* = \frac{Pirl}{\left(\frac{Pfor}{e}\right)}$$

Where E^* is the real exchange rate

P irl is the domestic price index,

$\frac{P\ for}{e}$ is the foreign price index in Irish pounds

The real exchange rate was calculated on the basis of both consumer price and wage indices The wage indices were estimated on the basis of annual increases in average earnings in manufacturing industry and the results are given in the table below

Data on nominal exchange rates was obtained from Central Bank Bulletins while information on consumer prices and earnings were taken from the OECD economic outlook (OECD 1986 b and 1987 c)

The real exchange rate against EMS currencies and against all major trading partners is a weighted average based on trade weights for each year

Table A 1 Real Exchange Rate (1978=100)

Based on Wage Inflation

	United States	United Kingdom	Germany	France	Belgium	Holland	Denmark	Italy	EMS Countries	All Main Trading Partners
1978	100 0	100 0	100 0	100 0	100 0	100 0	100 0	100 0	100 0	100 0
1979	113 6	95 8	106 5	102 8	106 8	110 1	109 4	101 6	105 7	100 5
1980	127 1	91 3	120 8	107 8	118 4	126 5	130 3	104 1	116 1	101 2
1981	106 0	84 3	130 5	110 4	123 6	140 9	135 3	102 9	122 4	96 4
1982	99 9	87 9	134 7	116 8	143 3	142 4	149 1	107 0	128 8	100 9
1983	94 4	91 1	134 2	119 1	148 7	145 0	150 0	107 3	130 5	102 3
1984	87 5	91 4	140 4	123 2	154 3	154 9	156 2	102 6	135 2	102 3
1985	89 1	91 2	146 5	125 5	157 0	161 1	160 0	105 9	139 1	103 5
1986	115 5	99 5	139 3	123 8	153 5	156 3	157 5	103 0	134 7	112 5

Appendix 2

External Trade by Area

Percentage

	IMPORTS					EXPORTS				
	UK	EMS	NORTH AMERICA	OTHER	TOTAL	UK	EMS	NORTH AMERICA	OTHER	TOTAL
1978	49 4	20 8	9 3	20 5	100 0	47 2	30 3	7 2	15 3	100 0
1979	50 1	21 6	9 5	18 8	100 0	46 5	31 3	6 0	16 5	100 0
1980	50 8	20 1	10 1	19 0	100 0	42 7	31 7	6 6	19 0	100 0
1981	49 7	21 2	13 1	16 0	100 0	40 2	30 2	8 2	21 3	100 0
1982	48 0	21 7	14 1	16 2	100 0	38 8	31 3	8 4	21 5	100 0
1983	45 3	21 8	15 9	16 9	100 0	36 9	31 7	9 3	22 2	100 0
1984	42 9	21 7	17 6	17 6	100 0	34 4	33 7	11 4	20 4	100 0
1985	42 7	21 8	17 9	17 9	100 0	33 0	34 1	11 5	21 4	100 0
1986	41 5	23 7	16 7	18 0	100 0	34 1	35 6	10 0	20 3	100 0
	Excluding Chemicals and Electronics									
1978	50 5	20 3	7 2	22 0	100 0	50 7	29 0	6 6	13 6	100 0
1979	51 2	20 6	8 0	20 2	100 0	50 4	29 2	6 1	14 2	100 0
1980	51 5	19 2	8 6	20 7	100 0	46 2	29 0	5 8	19 0	100 0
1981	51 4	20 5	10 7	17 4	100 0	43 6	26 7	8 6	21 1	100 0
1982	50 7	20 9	11 0	17 3	100 0	42 6	28 1	8 0	21 4	100 0
1983	48 3	21 1	12 1	18 5	100 0	41 2	34 5	9 4	14 9	100 0
1984	47 0	21 5	12 3	19 3	100 0	38 7	36 6	10 4	14 4	100 0
1985	47 3	21 1	12 4	19 2	100 0	37 6	30 3	12 5	19 7	100 0
1986	44 6	23 6	11 8	19 9	100 0	38 3	31 0	10 4	20 2	100 0

Source CSO Trade Statistics

Chemicals includes all SITC category 5

Electronics was defined as SITC category 75 i e Office Machines and Automated Data Processing Equipment

Appendix 3

Method of Estimating Impact of Exchange Rate Uncertainty on Manufactured Exports

The test for the effects of exchange rate uncertainty on manufactured exports was based on one employed by Akhtar and Hilton (op cit) Only manufactured exports were considered in order to base the exercise on a relatively homogeneous set of products

The equations tested took the form

$$QX = YF + RELPX + CUF + S$$

$$PX = PD + PF + CUF + S$$

where
- QX = Volume of Manufactured Exports
- PX = Price of Manufactured Exports
- YF = Foreign Income
- RELPX = Relative Price of Exports (in foreign currency)
- PD = Domestic Manufactured Output Prices
- PF = Foreign Manufactured Output Prices
- CUF = Measure of Overseas Capacity Utilisation
- S = Indicator of Exchange Rate Uncertainty

The data on foreign income, prices and capacity utilisation are trade weighted averages of real GNP, prices and capacity utilisation in the UK, US and Germany Figures for each country were obtained from OECD Main Economic Indicators Together these three countries account for 70 per cent of Ireland's foreign trade The term for exchange rate uncertainty (S) is the standard deviation of the end week values of the effective exchange rate index for each quarter The weekly values of the effective exchange rate index were obtained from Central Bank Bulletins Akhtar and Hilton used the standard deviation of daily values of the effective index during each quarter

Manufactured export price indices were obtained from unpublished CSO data The other goods index which is a component of the overall export price (unit value) index was used as an indicator of manufactured export prices The value of manufactured exports in each quarter was deflated by this index in order to calculate a volume index for manufactured exports

The equations were estimated for the period 1979 Q1 - 1985 Q4 using logs A lag of one quarter was applied to all independent variables (Akhtar and Hilton applied in eight quarter polynomially distributed lag) The Cochrane - Orcutt technique was applied to adjust for auto-correlation

Appendix 4

The PPP Tests

The test for PPP is based on a method used by Frenkel (op cit) The basic equation used was

$$1n\ Pt = a + b\ 1n\ \frac{(P^*)t}{S}$$

where S represents the exchange rate and P and P* represents domestic and foreign prices The equations were estimated using quarterly data for the period 1978 Q1 to 1985 Q4 using logs and were run using UK and German wholesale and retail prices as the independent variable Quarterly data on wholesale and consumer price indices for both Germany and the UK were taken from the OECD, Main Economic Indicators

The original equation in Frenkel is on the form,

$$1n\ Pt = a + b\ 1n\ (SP^*)t$$

The term SP* represents foreign prices in domestic currency The reason (P*/S) is used here is due to the way in which the exchange rate was expressed

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DISCUSSION

J Durkan It gives me great pleasure to propose this vote of thanks to Mr Massey's paper The society has in the past hosted a symposium on the EMS and there is a need for more public discussion of policy areas

My comments are confined almost entirely to the paper, and apply sequentially to the various aspects of the paper as presented

The first part of the paper is a comparative description of exchange rate policy over time in four SOES, covering floating, fixed link to a major currency and fixed but adjustable exchange rates I found it difficult to come to any general conclusion on the basis of the evidence presented A different times SOEC adopted different exchange rate strategies, based presumably on the best advise at those times There were problems associated with each which caused shifts in emphasis and changes in direction If one were to believe that there were learning processes in decision making then the most recent change, viz that of New Zealand, would present the state of the art, yet New Zealand is regarded as atypical The conclusion of this part of the paper is that a fixed exchange link represents the optimal policy approach for an SOE I do not disagree with this, but do not feel that it emerges from this part of the paper If anything the message comes across that exchange rate policy as practised is a shambles, policy makers are floundering and that there is no obviously correct policy In terms of a comparative analysis a useful extension of what is presented in the paper would be to look at general economic policy in each country to examine how exchange rate policy fitted into this, followed by an analysis of performance

The second part of the paper is an examination of the EMS regime from an Irish perspective The basis of our membership was almost certainly more political than indicated in the paper Government were obsessed with being "good Europeans", whatever that means, and with some primitive notions of financial and economic independence At the time it was widely believed that if the formal link with sterling were broken the Irish pound would appreciate, proving how strong the currency and economy were The basis for this belief was naive in the extreme, but impossible to counter There was also the hope of something for nothing, though the evidence from the EMS related grants suggests that it was the Exchequer which got something while costs for everyone else increased The White Paper on the EMS was a semi-professional gloss on a poorly considered decision

In the event the economy experienced unbelievably good luck If the one-to-one parity had been maintained then we would have followed sterling up, following the oil price increases, and suffered the vicissitudes of sterling under the Medium Term Financial Strategy This aspect is not covered in the paper

The analysis in the paper looks first at the data and then considers the effect on the economy under various headings The data are considered both from a short run and a long run perspective – volatility and misalignments The conclusion on volatility is that variability against currencies in the ERM of the EMS has fallen compared with the pre – EMS era, while variability against other currencies has increased However the analysis provides no measure of overall volatility, which is surely of most interest, nor does it compare the latter period with what was happening elsewhere In effect the paper is saying that in a period when exchange rates were flexible and the Irish pound was linked to sterling the volatility of the Irish pound exchange rate was greater against a particular selection of currencies than when the Irish pound was linked to those currencies and not to sterling This seems the least interesting of possible outcomes and it would be worthwhile to consider, purely as a statistical exercise, what the result would be compared with

(a) Volatility for all currencies between relevant periods

(b) Volatility assuming Irish pound had maintained value versus sterling in nominal terms

Finally it should be noted that volatility is measured without regard for sign changes

The issue of misalignment deserves further study First I doubt if one can talk of a misalignment versus any one currency A misalignment is a characteristic of a currency against all others We do not have the option of selecting a particular exchange rate against each others currency to maintain the real exchange rate The most we can hope to do is get the overall picture right Having said this the data in Table 5 and in Appendix 2 suggests that a misalignment of the Irish pound has occurred It is less obvious how one can deal with it or even how it emerged given models of the economy that produce full wage and price adjustments to exchange rate changes within 2 years The data suggests to me that adjustments take very much longer and perhaps are not to be found initially in consumer price and wage rate changes but in output and employment

The paper turns from the purely statistical side of exchange rate changes to a consideration of the effects of exchange rate charges on trade, real economy, inflation and interest rates I wish to consider the analysis under each heading

Trade

(i) Table 6 tells us nothing about the effect of exchange rate movements on trade What is the counterfactual situation?

(ii) It is possible to analyse data in volume terms as unit values do in fact exclude electronics etc

(iii) The interesting feature of data is the growth outside UK, EMS countries and North America This deserves further analysis of a descriptive nature by area and product

(iv) It is inappropriate to take competitive position vis-a-vis a single country as both may be uncompetitive I have little difficulty in describing a situation where both Ireland and Britain were competitive vis-a-vis other countries, our shares of UK trade fell, the UK share of our trade fell, and the structural change and tax advantages evidenced in the modern sector pushed out goods to other countries

(v) The equations cause me some difficulty - over and above the purely statistical results

a only 3 countries, whose share of our trade has been falling

b different measure of exchange rate uncertainty - again only for 3 countries What is the expected sign on S for both equations?

c it is possible to exclude hi-tech from data and estimate volumes

d maximum lag is 3 months - however short term risks can be hedged It is medium to long run changes that cannot be covered

Real Economy

The data in Table 10 are potentially misleading Industry in the National Accounts refers to the value added of industry This measure includes profit and to the extent that profits are overstated because of transfer pricing, and because output of the modern sector has been increasing sharply, must overstate the relative importance of industry I carried out a simple, if somewhat arithmetic exercise from 1981 - 1985 If all profit repatriations are excluded from industry value added and from GNP the ratio of industry to GNP less profit repatriations falls steadily from 33 8 per cent in 1981 to 29 7 per cent in 1985 (The 1986 figure may increase marginally, but I do not have comparable data as of yet) It is also worth noting that GNP is now below the 1980 level The analysis of Table 11 introduces the distinction between the modern and traditional sectors as a proxy for tradables and non-tradables

Inflation

It is incontrovertible that inflation has fallen in recent years The broad conclusion that the decline in inflation in recent years was no faster inside than outside the EMS is one that can easily be taken on board However the explicit introduction of the UK into the analysis is in the nature of a red herring and leads to what I believe are incorrect conclusions To restate the conclusion

> "These real exchange rate data raise doubts about the rationale underlying the decision to join the EMS In effect they suggest

> that Irish inflation is still primarily determined by UK inflation after allowing for currency movements "

and

> "The above figures indicate that UK prices are the major input into the foreign price index used by Honohan and Flynn suggesting that in fact Irish inflation is heavily influenced by inflation in the UK Clearly such a relationship has significant implications for exchange rate policy as it undermines an essential consideration underlying the Irish decision to join the EMS "

If anything the analysis confirms the decision If one's prices were determined by prices in another country (for a variety of reasons e g similar patterns of consumption, trade etc) once allowance is made for exchange rate changes, then adherence to a different exchange rate regime will cause measured inflation to differ, but not when adjusted for exchange rate changes This permits the possibility of lower inflation even if prices are predetermined

The equations for PPP are seriously misspecified

Interest Rates

The interest rate expectations at the time of joining ERM of the EMS have not been realised There are wide divergences within the EMS reflecting exchange rate expectations These in form are based on fundamental factors – inflation, budget deficits, balance of payments, unemployment and growth prospects – and on judgements about political processes For interest rates to be equalised across the EMS there would need to be greater harmony between economic performance, not just in the EMS but between the major currency blocs

Finally, I would like to make some general comments about the EMS

It may be useful to look at where the EMS might be going There seems general agreement that moves towards completing the internal market will not result in monetary union within the EC for the foreseeable future The product might then seem to be more of the same, but important differences are likely to emerge First, with inflation rates (both price and wage) reduced within the ERM countries there are less real economy benefits to West Germany Second, the deflationary bias in West Germany policy will appear less attractive to policy makers in other countries, given that the benefits, with inflation already so low, are slight Third, the world is in no sort of equilibrium and the financial imbalance that exists between countries may generate more significant exchange rate changes unless the US budget deficit is corrected In this environment it is difficult to see how EMS members can hold together as real economy effects become obvious

As is evident I found this paper stimulating While my comments may appear critical they are meant in a positive manner and I have no hesitation and great pleasure in proposing the vote of thanks to Mr Massey for his paper

Dr A Leddin It gives me great pleasure to second the vote of thanks to Pat Massey on behalf of the Society Mr Massey raises a number of important issues and questions about Irish exchange rate policy and he is to be congratulated on a very worthwhile and stimulating paper This was added to by the excellent presentation this evening

The paper can be conceptually divided into two parts Section 1 examines exchange rate policy in Canada, the Netherlands, Sweden and New Zealand The general conclusion is that 'a fixed exchange rate link represented the optimal approach for a small open economy' (like Ireland) The second part of the paper examines Irish exchange rate policy since EMS entry The author notes an increase in exchange rate variability relative to non-EMS countries, noticeably the UK, and a real appreciation of the Irish pound relative to Ireland's main trading partners These effects are then examined in the context of Irish trade, industrial output, inflation and interest rates The paper concludes by discussing a number of possible exchange rate policies and argues that the current EMS arrangement is the preferable strategy

With regard to the first part of the paper, I am not certain that the important issues relating to Irish exchange rate policy have been covered The choices facing the authorities include adopting a rigidly fixed exchange rate system or an adjustable peg system At the present time, a flexible exchange rate system would result in a significant depreciation In deciding between these different systems, one of the central questions is whether or not devaluation 'works' That is whether devaluation confers a 'net' benefit on the Irish economy over some given period of time

In order to answer this question, it is necessary to determine if devaluation reduces real wages and/or the money supply in order to give a sustained improvement in the trade balance If the trade balance does improve, then it is possible that growth and employment will increase in the economy These benefits however, must be weighted against the costs The costs include the effect of devaluation on servicing Ireland's foreign debt, the increase in domestic interest rates (resulting from increased exchange rate uncertainty) and the permanent increase in the price level

It is not clear to me that the first part of the paper addresses these issues I think it is very worthwhile to evaluate exchange rate policies in other countries and to draw on their experience I would however be very slow to derive any firm conclusions about how to conduct exchange rate policy in Ireland Certainly I would not conclude on the basis of the discussion in the first part of the paper that a fixed exchange rate policy was optimal for the Irish economy

As already mentioned, the second part of the paper examines the impact of exchange rate variability and real exchange rate appreciation on (1) trade, (2) industrial output, (3) inflation and (4) interest rates I shall comment briefly on each of these sections

In the case of trade, the author argues that (A) exchange rate variability has not had an adverse effect on either exports or imports (B) shifts in the distribution of Ireland's trade are at odds with movements in the real exchange rate and (C) presents empirical evidence that the price and volume of exports were unaffected by exchange rate uncertainty Overall the conclusion seems to be that exchange rate variability and real exchange rate appreciation have had little effect on Irish trade

With regard to (C), the empirical results suggest that the coefficients are, in all cases, not statistically different from zero An F test is required to test the overall significance of the two equations As things stand, no definite conclusions can be drawn about the effect of exchange rate uncertainty (as measured by the standard deviation of the exchange rate) on the price and volume of exports (it is not clear why imports were excluded from this discussion)

In the case of points (A) and (B), the discussion is very general For example, it is not enough to simply compare volume changes in imports and exports over the periods 1971/78 and 1978/86 and comment on possible exchange rate effects

Similar comments apply to the section dealing with the effect of exchange rate appreciation on industrial output The author presents a table on industries share of GDP and suggests that there is 'little indication in the figures of a squeeze on the tradable sector' Again the evidence is not convincing

With regard to inflation, the author tests for a purchasing power parity (PPP) relationship between Ireland and the UK and Ireland and Germany using the Frenkel (1981) model The PPP hypothesis requires that the constant term and the explanatory variable coefficient are statistically equal to zero and one respectively and that the residuals are free of autocorrelation

In Table 13, the constant term is not reported and the hypothesis that the coefficient is equal to one is not tested However the author does point to the autocorrelated residuals and correctly concludes that there is no short run PPP relationship in either the Irish/UK or Irish/German case

Having rejected the existence of a short run PPP relationship, the author reverts to a previously reported table on real exchange rate movements, and, in the case of Ireland and the UK, points to a return to the 1979 real exchange rate It is then suggested that PPP holds between Ireland and the UK in the long run

While there is not enough data at this point to test empirically the long run PPP hypothesis, the hypothesis does not stand up even on a visual inspection It is possible to argue that the return to the original real exchange rate has been fortuitous so that PPP does not really exist

In 1983, Professor Brendan Walsh showed a graphical representation of the PPP relationship The approach was to graph the exchange rate alongside the foreign/domestic price ratio This approach is more informative because it shows the dynamics within the real exchange rate calculation An updated version of this graph is given in Walsh et al (1987) Inspection of this graph suggests that the return to the original real exchange rate was due to movements in sterling (which, allowing for EMS realignments, was in turn due to external factors) and not a convergence of Irish prices to UK prices as PPP would suggest Hence it is possible that even in the 'long run', PPP does not hold

The section on interest rates examines the trends in Irish, UK and German real and nominal interest rates since 1979 The effects of exchange rate policy on interest rates are not evaluated It would have been useful if a model, such as that employed in the earlier section on trade, was used here

Finally I am a little perplexed with the conclusion that Ireland should remain in the EMS On the basis of the authors conclusions through-out the paper, a sterling link would seem to be preferable For example, if exchange rate volatility has had little effect on trade (so that sterling movements associated with a return to the sterling link, would not discourage Irish trade) and if there is a PPP relationship between Ireland and the UK, then surely a sterling link is preferable to the EMS link?

I would like to close by again congratulating Mr Massey on his paper

References

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Walsh, B M , O'Leary and Leddin, A , 1987 "Fiscal, Monetary and Exchange Rate Policy" in J W J O'Hagan (ed), *The Economy of Ireland Policy and Performance,* 5 edition, Dublin, Irish Management Institute

B Walsh The paper provides a very useful review of the Irish experience since 1979 I would like to join with the previous speakers in congratulating the author

Listening to the paper I was struck by the paradox that while the author firmly endorses the need for a hard currency peg, he is rightly sceptical about the extent to which Ireland has benefited from membership of the EMS We have enjoyed greater exchange rate stability vis-a-vis other EMS currencies, but the econometric evidence (in this paper and elsewhere) does not reveal that exchange rate stability generates any substantial additional trade It is not clear how much of the recent decline in inflation in Ireland should be attributed to our membership of the EMS Nominal interest rates have remained very high relative to German rates, although they have at last fallen below the UK level, for the moment at least All the indicators of **real** economic performance (GNP growth, unemployment etc) show that Ireland has done very badly indeed since 1979 Overall, the benefits to Ireland of EMS membership are hard to discern, at least on the basis of a crude comparison of our experience with that of non-member countries such as Sweden and the United Kingdom

It is often said that it is unfair to complain that the expected benefits of membership have not materialised because we failed to conduct our macroeconomic policy in a manner that would have led to lower inflation and interest rates Moreover, instead of holding our nominal exchange rate fixed against the DM we have allowed it to slide by 30% since 1979 But back in 1979 many commentators proclaimed that membership of the System implied fixing our nominal exchange rate relative to the DM and that this in turn would force us to adopt domestic macroeconomic policies that would lead to the rapid (i e within months rather than years) convergence to German interest and inflation rates This reading of what was involved in joining the System was thoroughly falsified by events Most commentators in 1979 failed to anticipate that membership of the System could be reconciled with a continuation of much higher inflation in Ireland than in Germany by a combination of some depreciation of the nominal exchange rate and some loss of competitiveness through a rise in the real exchange rate, and that massive balance of payments deficits could be financed by equally massive external financing of the public sector borrowing requirement Proponents of the benefits of membership of the System also ignored the likelihood that many of them would have followed if we had pursued appropriate domestic policies, whether or not we were members of the System In other words membership of the System was neither a necessary nor a sufficient condition for bringing about the benefits that were expected from it

One little noticed *disadvantage* of membership is apparent from the interest rate graphs presented in tonight's paper Since 1979 Irish interest rates have been more volatile than they were before 1979 and also more volatile than the

rates in the UK or Germany On reflection this is not surprising as we have had to rely heavily on the interest rate to maintain the level of our currency in the EMS at times when our sterling rate was regarded as unsustainable by the market Increased interest rate volatility is a cost that has to be set against any benefits that are believed to have followed from membership of the System

I would take issue with the general thrust of the conclusion to this paper which I paraphrase, perhaps a little crudely, as follows

> "Since 1979, PPP has continued to hold, with Irish inflation essentially driven by British-inflation, adjusted for exchange rate changes Therefore, there is no point in looking at the exchange rate as a potential macroeconomic instrument "

The interpretation of the evidence regarding the tendency for the Irish/Sterling real exchange rate to revert to it's 1979 level has been questioned by Dr Leddin in his comments, and I endorse his views on this issue The evidence from the past decade for all the major currencies is that large and persistent deviations from PPP occur Moreover, we must be wary of extrapolating the conclusions of studies based on the high inflation period of the 1970's and early 1980's into the present low inflation situation Furthermore, the slow adjustment of the Irish price level to the sharp rise in the Irish nominal exchange rate in 1986 suggests that there may be an asymmetry between the effects of depreciating and appreciating exchange rates on the domestic price level

Ireland now has an unemployment rate in the region of 20 per cent, despite annual net emigration amounting to almost 1 per cent of the population for the past four years The stance of fiscal policy will have to be contractionary for some years to come if the modest goal of stabilising the debt/GNP ratio is to be realised The social partners have agreed an incomes policy running for three years in nominal terms (i e with no provision for indexation) In these circumstances a fall in our nominal exchange rate might not be as quickly eroded by compensating wage/price increases as appears to have been the case for previous depreciations While the Programme for National Recovery (1987) affirms that the exchange rate will remain linked to the ECU, I hope that this does not preclude exchange rate adjustments if the evidence indicates that the Irish pound is misaligned In evaluating whether the currency is misaligned, account should be taken of the fall in real output and employment, especially in the traded goods sector, and the rise in unemployment and emigration In assessing the appropriateness of a strong exchange rate policy, we should carefully study the British experience in 1986, when a 10% gain in competitiveness was achieved by allowing the value of sterling to decline relative to the EMS currencies Commentators agree that this strategy has

played an important role in making Britain the fastest growing economy in Europe in 1987 The cost in terms of accelerating inflation has been very modest so far

Mr Massey concludes his paper with a cogent quotation from J M Keynes The passage he cites comes from *The Treatise on Monetary Reform* written in 1923 At that time Keynes was obviously impressed with the need for an exchange rate peg in order to impose discipline on ministers for finance However, two years later he was calling attention to the folly of returning to the gold standard at the pre-war value of sterling He feared that immense costs would have to be borne by the British people as they tried to adjust to an overvalued currency by lowering money wages in order to maintain the competitiveness of export industries He pointed out that "deflation does not reduce wages 'automatically' It reduces them by causing unemployment" (p 220) He believed that the return to the gold standard involved a competitive campaign of deflation, each of us trying to get our prices down faster than the others, a campaign which has intensified unemployment and business losses to an unendurable pitch (p 248)

The experience of the next five years was to vindicate these gloomy forebodings In 1931 Keynes could claim that "there are few Englishmen who do not rejoice at the breaking of our gold fetters" which had "placed an intolerable strain on British industry" and "driven British trade almost to a standstill" With a depreciating currency he looked forward to "a great stimulus to employment" (p 246)

The radical change in Keynes' thinking during the 1920's and his critique of Britain's exchange rate policy between 1925 and 1931 should be carefully studied by all those concerned about Ireland's current economic underperformance

Padraig McGowan I would also like to be associated with previous speakers who have congratulated Mr Massey and complimented him on his paper There are, however, two issues which have not been considered in the paper to which I would like to draw attention Firstly, I wish to refer to the policies required for realising nominal exchange rate and price stability Secondly, I wish to draw attention to some of the implications of focusing on the real exchange rate

Mr Massey recalls that a major consideration in deciding to join the EMS was the prospect of bringing the rate of inflation in Ireland into line with that in the other EMS countries He also points out that, up to 1985, inflation in Ireland had been higher than in the other EMS countries, especially Germany and the Netherlands Although the Irish rate of inflation over the past year or so has converged with that in the other members of the EMS, it has taken much longer for this to occur than initially envisaged I would suggest that two major contributory factors to this were the large disturbances in the international foreign exchange markets at the beginning of the 1980's and the stance of

fiscal policy for a number of years after joining the EMS In saying this, I am playing down the strength of the association between the rate of inflation in the UK and in Ireland in accounting for the relatively slow reduction in the Irish inflation rate in the first half of the 1980's

In the early years of EMS membership, sterling and the US dollar appreciated sharply on the international foreign exchange markets and became significantly overvalued This resulted in a large unwarranted depreciation of the Irish pound vis-a-vis these currencies which increased inflation in Ireland especially in the period mid-1979 to mid-1982 This experience could have been avoided by unilateral revaluations of the Irish pound against the other EMS currencies, including the DM, to offset the unwarranted depreciations against sterling and the dollar Because of the major imbalances in the Irish economy at that time - an external deficit of some 15 per cent of GNP and budgetary imbalances that were close to 18 per cent of GNP - the conditions were far from ideal for successfully revaluing the Irish pound against the other EMS currencies We were in no position to emulate the Swiss as we were not pursuing Swiss-type macro-economic policies

The second major reason why the rate of inflation did not fall faster than envisaged is that the stance of fiscal policy was not supportive of exchange rate policy An important reason for joining the EMS was that it offered the prospect of being a member of "a zone of monetary stability" But a country can only experience the benefits of monetary stability if its exchange rate, interest rate and fiscal policies are not only consistent with each other but fully supportive of the objective of monetary stability Since we joined the EMS, the amount of money supplied to the domestic financial markets, particularly by way of monetary financing of Government expenditure, has been substantially in excess of the growth in the domestic demand for money

This helped to keep inflationary expectations alive, and created a monetary environment conducive to domestic price increases especially in the non-traded goods sector of the economy If the fiscal deficit had been managed so that, in relative terms, the injections of money by the public sector into the economy had been falling into line with that in the other member countries of the EMS, it is probable that inflationary expectations would have been wound down more rapidly and the increase in prices might have been smaller than that experienced since 1979 In other words, the relatively high level of domestic credit expansion in Ireland may have accounted for part of the delay in reducing the rate of inflation here relative to that in our EMS partners Large scale monetary financing of the Exchequer is not compatible with minimising inflation in the context of EMS membership

Turning now to the second issue to which I wish to draw attention, i e the real exchange rate and competitiveness, Mr Massey presents data in Table 5 and in Appendix 1 for changes in the real exchange rate over the period 1978 to 1986 The effective real exchange rate is defined in the paper as the effective

nominal exchange rate adjusted for differences in national inflation rates where both the exchange rates and domestic prices are weighted by reference to the distribution of external trade between our trading partners, two measures of national inflation are used, consumer prices and average earnings in manufacturing industry Regarding the real exchange, I would have liked to have seen more attention given in the paper to the concept of the real exchange rate and the difficulties in measuring it

In theory, the real exchange rate is defined as the ratio of the price of non-traded goods to the price of traded goods Taking traded goods as being those goods and services whose prices are determined by international supply and demand conditions it is by no means obvious how to distinguish empirically between traded and non-traded goods The traded goods sector may be wider than suggested by those goods and services that are reflected in the balance of payments, and the non-traded goods sector may include not only the non-commercial public sector but those components of banking, insurance, other financial services, construction, retailing, and other private services whose prices are not determined by international supply and demand conditions

In practice, the traded and the non-traded sectors should be clearly identified and the appropriate price indices applied for computing the movements in the real exchange rate It should be noted that correcting exchange rates for changes in earnings in manufacturing industry focuses on a relatively narrow part of the total costs of only part of the traded goods sector, while this tells us something about the profitability of manufacturing industry across countries it says little about the changes in the ration of non-traded and traded goods output prices

Leaving aside the difficult measurement problems that confront the researcher, I have raised this issue because of its implications for the thrust of national competitiveness policy From time to time, devaluation is advocated for the purposes of improving the competitiveness of the traded goods sector However, experience indicates that the domestic inflationary effects of a devaluation cannot be avoided and that the initial improvement in competitiveness is not durable This suggests that it would be more rewarding to focus on improving the competitiveness of the non-traded goods sector The output of the traded goods sector will be handicapped in international markets if the input from the non-traded goods sector is not internationally competitive In view of this, it would seem appropriate that competition policy should pay much greater attention to such areas as promoting entry into and providing scope for greater competition within the private non-traded goods sector, increasing the extent to which the public non-traded goods sector is exposed to the influences of competition, and the fostering of a labour market that responds more competitively to supply and demand conditions for the different labour inputs into both the private and public areas of the non-traded

goods sector It is on realising durable improvements in competitiveness rather than on temporary improvements at the cost of higher inflation that attention should be focused

Sean Cromien I should like to join with other speakers in complimenting Mr Massey on his paper There is an old saying that there are three things that drive men mad – love, ambition and the study of currency problems Whatever about the effects of the first two on us, there is no danger of this paper threatening our sanity it is a sensible and clearly written document which adds to our knowledge of the subject and suggests further lines of enquiry

Like other speakers I am not sure that the evidence as presented fully supports some of the conclusions I still, however, agree with the broad thrust of the paper and in particular the general conclusion that a small open economy like Ireland should maintain a fixed exchange rate link with a larger economy This is in line with the policy traditionally followed here

In regard to our joining the EMS, it is worth remembering that on many occasions in the years prior to 1979 there was considerable public discussion of what should be an appropriate exchange rate for the Irish pound I recollect regular reviews over a long period in the Department of Finance of the difficult question whether we should or should not break the link with sterling It was inevitable that it would be broken at some time and there was always an anxiety about what would happen when we did so As a small open economy, with a patchy record in managing our public finances could we be reasonably certain, if we broke the link, that our new rate of exchange would stick or would there be scepticism abroad about it? It would have been like pushing a small boat out on a very stormy ocean and hoping for the best The establishment of the EMS allowed the breaking of the link to be done in a way which helped to maintain the stability of the currency, something that might not have happened if we had had to go it alone

The paper draws attention to the fact that joining the EMS did not have the expected effect of reducing domestic inflation and interest rates to the level of the other EMS countries This was certainly so in the early years of the EMS The reason simply was that we did not do what was necessary to bring rates down However, our inflation and interest rates are now converging on those of our EMS partners The lesson to be learned is that an exchange rate link will not *automatically* bring these benefits The domestic policies followed must be consistent with the exchange rate link if the benefits are to be reaped The close links with the UK also mean that developments there still have a significant impact on the Irish economy This cannot be eliminated just by changing the exchange rate link

The paper suggests that the August 1986 devaluation indicated a change in the exchange rate target towards a trade-weighted target or a sterling target It might be worthwhile reiterating the once-off nature of this devaluation It was

a pragmatic decision taken against a background of very substantial depreciations of sterling and the dollar over a relatively short period It was designed to roll back some of the resulting unwarranted appreciation of the Irish pound, before this appreciation had time to work its way through the economy While the end-result of such an appreciation would have been favourable in terms of reducing inflation, the transitional effects on competitiveness would have been severe The Irish pound had reached a level of 96p to the pound sterling and seemed likely to move to parity There was strong pressure to save the vulnerable industries from the consequential effects of such a revaluation

The Government have now clearly committed themselves to maintaining the stability of the currency within the EMS The domestic policies which they are following are intended to be fully supportive of this stance The Programme for Recovery says

> "The exchange rate will be firmly linked to the EMS so as to bring greater cohesion of our interest rates with the EMS average and to promote investor confidence and inhibit speculative capital movements"

The paper looks at the variability of the Irish pound against EMS and non-EMS currencies before and after EMS entry There was indeed greater variability against non-EMS currencies after EMS entry However, given the volatility of major exchange rates over this period, no exchange rate link would have provided a haven of stability The EMS was probably the most stable link that we could have had Both sterling and the dollar showed substantial appreciation followed by substantial depreciation The EMS group of currencies did not suffer such large swings

A final small point of detail The paper is incorrect in saying that the Irish pound was devalued by 1% in the general EMS realignment in April 1986 In fact, the Irish pound stayed in the middle, neither revaluing nor devaluing