

**Exchange Rates and
Competitiveness**

Patrick Massey

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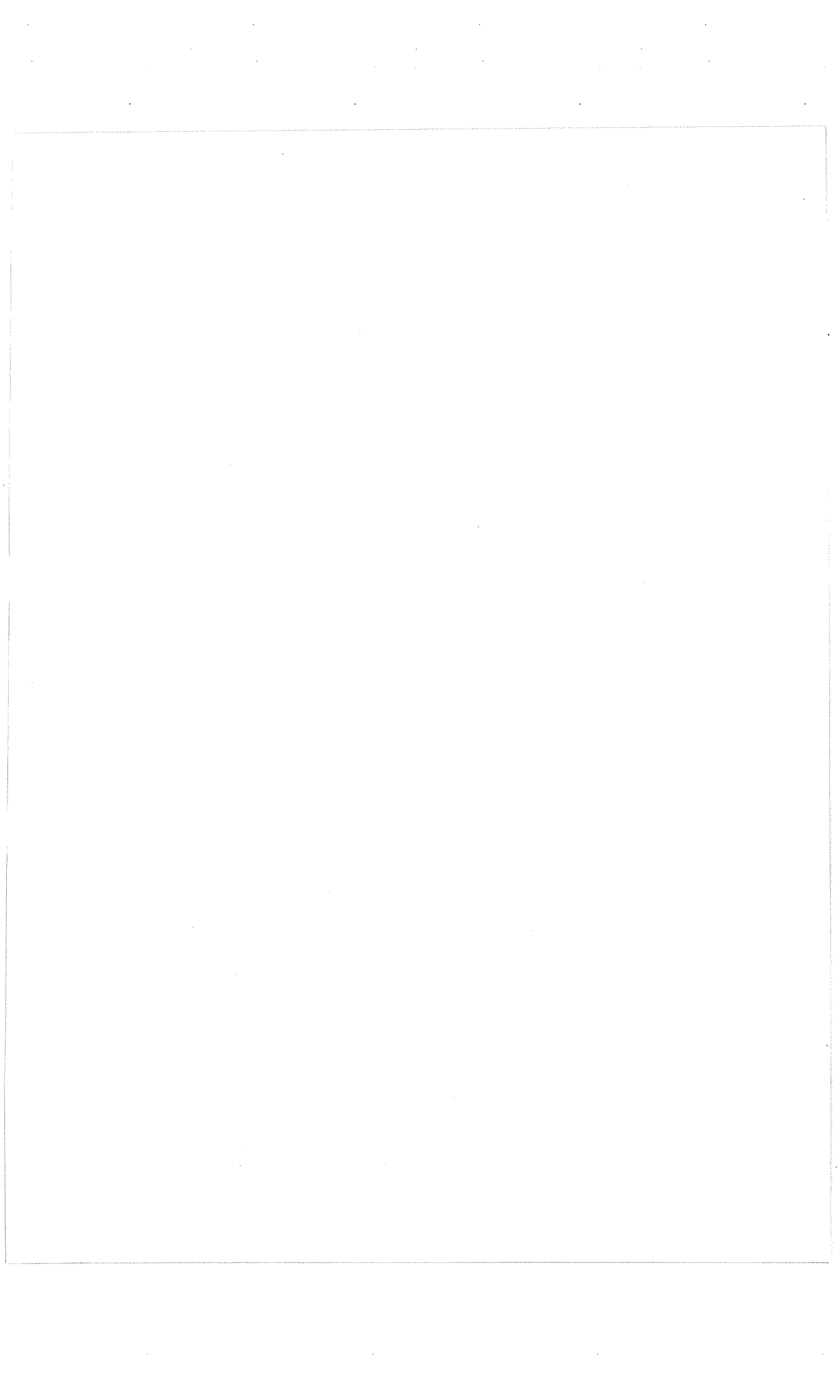
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EXCHANGE RATES AND COMPETITIVENESS

by
Patrick Massey
DKM Economic Consultants

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

1. Introduction

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

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

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

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

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

2. The Nature of Competitiveness

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

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

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

$$e.(P_d/P_f) \quad (1)$$

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

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

3. Empirical Evidence

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

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

TABLE 1: Irish Pound Exchange Rate (End Period)

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

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

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

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

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

IRISH POUND REAL EXCHANGE RATES

Figure 1 versus sterling

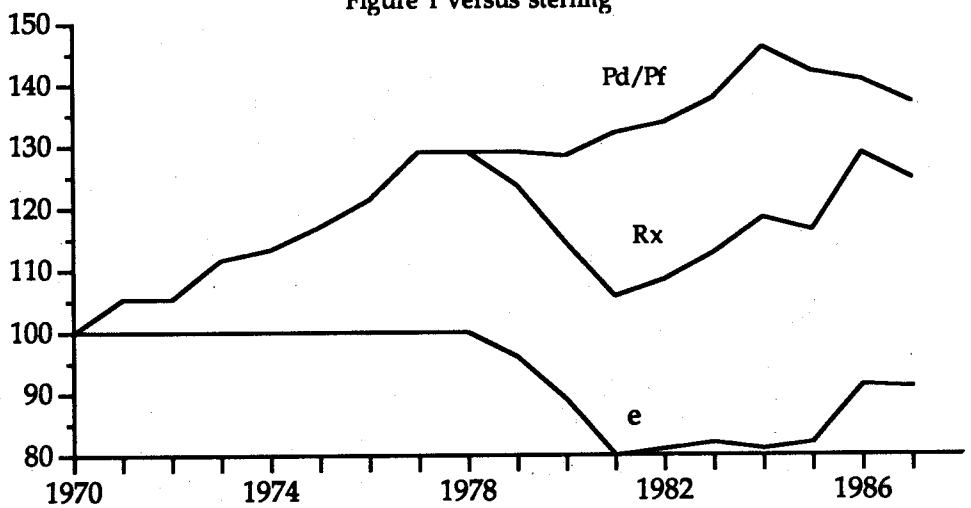


Figure 2 versus EMS currencies

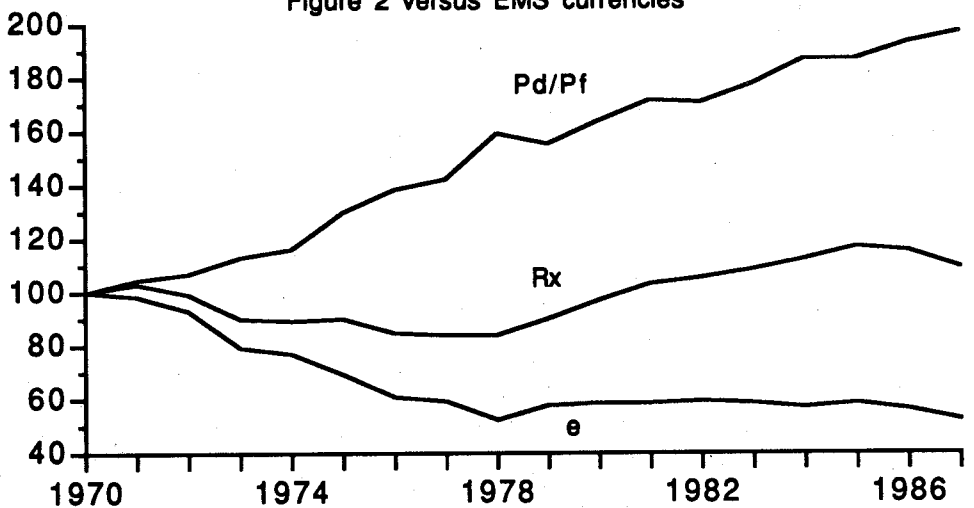
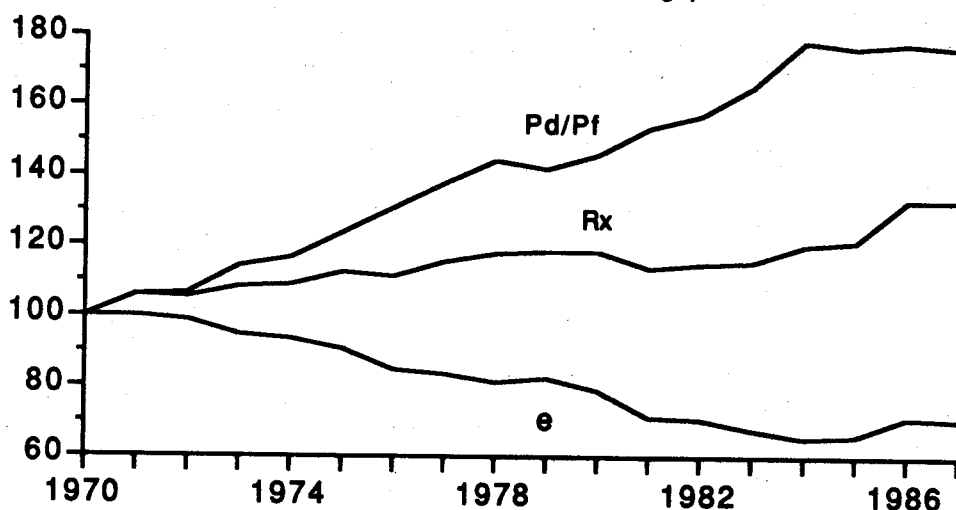


Figure 3 versus all main trading partners



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

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

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

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

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

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

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

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

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

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

TABLE 3: Foreign Firms Output Share (1985)

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

Source: Census of Industrial Production (1985)

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

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

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

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

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

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

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

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

Based on unit labour costs and period average exchange rates.

Source: As for Table 2.

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

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

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

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

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

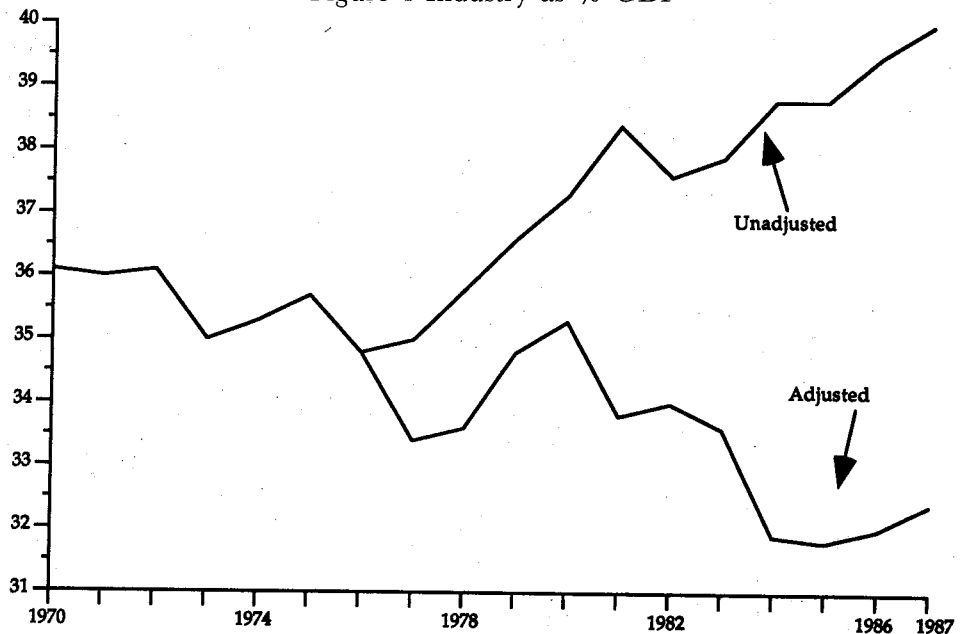
Source: As for Table 2.

4. Impact of Exchange Rate Policy

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

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

Figure 4 Industry as % GDP



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

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

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

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

TABLE 6: Trends in Manufacturing Employment

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

Figures relate to September each year.

Source: CSO; Census of Industrial Production for 1973, 1979 and 1983, *Quarterly Inquiry on Industrial Employment for 1987*.

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

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

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

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

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

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

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

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

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

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

5. Implications for Policy

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

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

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

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

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

6. Conclusion

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

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

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

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