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25 May 1990

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Dear Barry

HOW THE ERM WORKS

... You may be interested to see the attached note by officials here which sets out in a detailed, but we hope simple, way how the ERM works.

Yours

JG.

JOHN GIEVE
Principal Private Secretary

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The Exchange Rate Mechanism (ERM) : How It Works

1. The ERM came into operation, as part of the EMS, on 13 March 1979. There are eight participating currencies : those of Germany, France, Italy, Netherlands, Denmark, Belgium/Luxembourg, Ireland and Spain. The UK, Greece, and Portugal are members of the EMS but not of the ERM.

2. The decision leading to the establishment of the ERM was the European Council resolution of 5 December 1978. The rules for operating the system are set out in agreements among the central banks of the Member States (including the Bank of England) dated 13 March 1979, as amended in 1985 and 1987. This note describes the four main features of the ERM:

(i) the central exchange rates;

(ii) the margins within which those central rates may fluctuate;

(iii) the intervention rules and the credit facilities available to support intervention;

(iv) the arrangements for realignment of currencies.

The Central Rates

3. Each ERM currency has a central rate against each of the other currencies in the mechanism. In theory, when a currency joins the ERM or there is a realignment, each currency is given a central rate in relation to the ECU*, and this is used to establish the central rates against other participating currencies. In practice, at realignments, central rates are set against a "reference currency" (the one agreed to be least affected by the changes) and all the others follow. On joining

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* For description of ECU, see Annex A.

the ERM, a Member State would probably look at a specific bilateral rate (eg the Spaniards looked at the DM rate) and again all the others follow.

4. Central rates cannot be changed unilaterally. Changes can be made only by agreement with all the other ERM participants. (See paras 22-23 below on realignments).

The Margins

5. Seven of the eight member currencies are allowed to fluctuate within margins upto about 2¼ per cent* above or below their central rates. The exception is Spain, which is allowed wider margins of around 6 per cent either side*. (Italy also enjoyed 6 per cent margins until January this year). The 1978 Council resolution states that such wider margins "should be gradually reduced as soon as economic conditions permit". There is no binding provision compelling Member States to move to 2¼ per cent margins within any particular timescale, but Stage One of EMU will involve participation of all Community currencies "on the same terms", which is likely to mean with 2¼ per cent margins. (The margins have very occasionally been suspended temporarily, at the time of realignments).

6. Once a currency is fixed within 2¼ per cent margins, there is no provision in the 1978 Council resolution for it then to move to wider margins.

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* The actual margins are not exactly 2¼ per cent or 6 per cent. This ensures that, for any two currencies, the upper limit for one is the reciprocal of the lower limit for the other and is therefore consistent with it. Take the deutschemark and the French franc:

FF1 = DM.3049	upper limit (+ 2.275%)	
FF1 = DM.2982	central rate	DM1 = FF3.354
(-2.225%)	lower limit	DM1 = FF3.279

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7. Let us assume, purely for the purposes of this note, that sterling were to enter the ERM with a central rate of DM 2.75. (This rate would, in turn, imply a central rate against all the other ERM currencies and the ECU). If we were to adopt the narrower 2¼ per cent margins, this would imply the following (approximate) rates:

Upper limit:	DM 2.81
Central rate:	DM 2.75
Lower limit:	DM 2.69

That is, we would be obliged by intervention or other means (see below) to keep sterling at or above DM 2.69 and at or below DM 2.81.

8. If instead we were to adopt the wider 6 per cent margins, this would imply the following (approximate) rates:

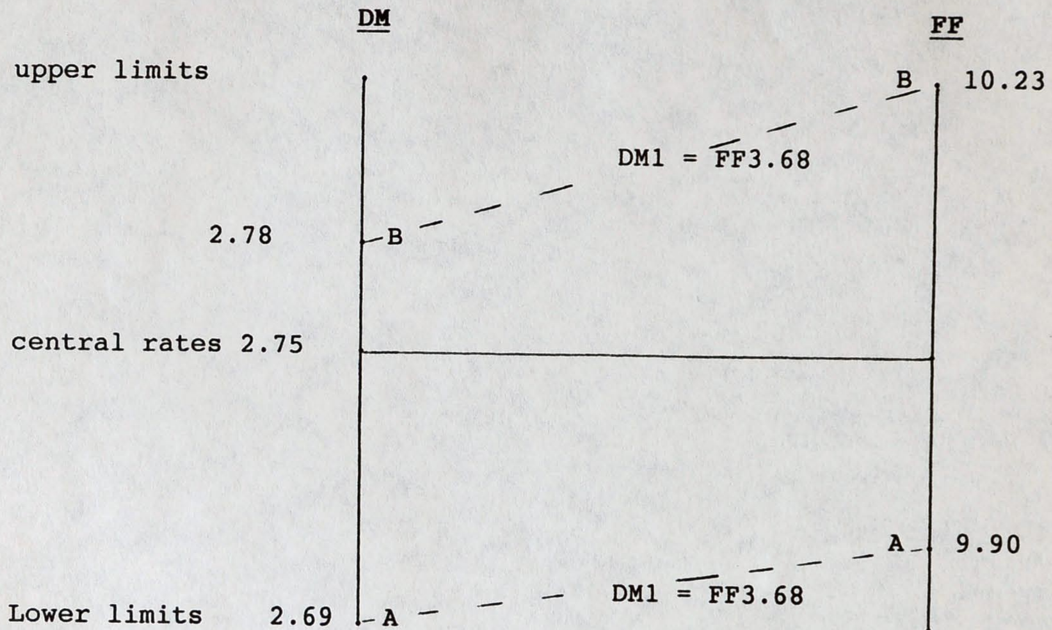
Upper limit:	DM 2.92
Central rate:	DM 2.75
Lower limit:	DM 2.59

9. The figures in paragraphs 7 and 8 might seem to imply that, at the upper and lower margins, each currency has a total flexibility of 4½ per cent (narrow band) or 12 per cent (wide band) against another currency. In practice, this is not so. Maximum flexibility will be rather less, because of the presence of other currencies in the system. To give a simplified example, let us assume a three currency system with the following central rates and 2¼ per cent margins:

£1	=	DM 2.75
£1	=	FF 10.00
DM1	=	FF 3.64

Let us also assume that sterling is at the bottom of its range against the DM (2.69), but just below its central rate against the Franc (9.90). Assuming the DM/FF relationship is unchanged,

sterling's maximum appreciation against the DM will be rather less than 4½ per cent because it will first hit its upper limit against the French franc (10.23). In this example, sterling's maximum value against the DM would be 2.78. The example is set out in the chart below:



Sterling starts at position A against the mark and the franc. Maximum appreciation against the franc takes it to position B. Assuming an unchanged cross rate between the mark and franc (shown in the dotted line), this means that sterling's maximum rate against the mark (at B) is below the theoretical upper limit.

10. Within its margins, each currency has a "divergence threshold", an indicator which is intended to give early warning of tension within the system. However, in practice, this has not worked. For the record, the provisions are outlined at Annex B.

11. While their currencies are trading within the margins, Member States can intervene in the foreign exchange market in order to keep them within these margins (so-called "intramarginal

intervention"). They can also use other policy measures to influence the exchange rate, such as interest rates. The table below shows the spread at (10 May 1990) of 3 month interbank rates (real and nominal) among the main ERM currencies:

	Nominal %	Real %	Inflation %*
Deutschemark	8.3	5.5	2.7
French franc	9.7	6.1	3.4
Dutch guilder	8.5	6.2	2.2
Italian lira	12.2	6.0	5.8

* Inflation rates are for 12 months to March 1990 except Italy (April). Real rates are arrived at by deflating the nominal rates by the inflation rates.

12. Once the margins are reached, intervention is compulsory, and, in principle, unlimited. If intervention and other policy measures fail to relieve pressure on the limits, the only escape from the obligation to intervene on an unlimited basis is a realignment (see paras 22-23 below). In principle, the central banks of both currencies at their margins - the strong currency and the weak currency - have an equal obligation to intervene. In practice, the main burden of intervention usually falls on the weak currency. This is partly because, in practice, most intervention is intra-marginal : Member States tend not to wait until their currencies are at the limits before taking action.

13. Member States tend to use intra-marginal intervention to slow down any precipitate movement of their currency in the band and where they wish to augment reserves. As their currency moves close to a limit (especially the lower limit), their intervention tends to grow. But the opinion is generally held that sizeable intervention is not worthwhile until close to the limit, where market players will tend to be moving in the same direction, unless they are expecting any early realignment.

Intervention rules and the credit facilities to support intervention

14. Although rules about intervention and the use of credit facilities are set out in the central banks agreement, it is not easy for non ERM members to be sure about the detailed interpretation of these rules and the precise way in which they have been implemented. A certain amount of custom and practice is bound to have developed in the 10 or more years of the ERM's existence. What follows is therefore a summary of the key points, in so far as we understand them.

15. In general, the rules operate so as to put more pressure on Member States with weak currencies to take action rather than those with strong currencies. For example, in October 1989, when the Krone was at the bottom of the band and the mark at the top, the Danes had to spend $1,750 million of marks in intervention on one particular day, while the Germans bought only $9 million of Krone.

16. Article 2.2 of the central banks' agreement provides that intervention shall be in the currencies of the participating central banks though it is known that intervention in other currencies (notably the dollar) has taken place despite this rule, not least when the Bundesbank has refused permission to use marks.

17. Article 15 of the central banks agreement provides that "central banks may hold working balances in Community currencies within the limits laid down by the Committee of Governors" and that "these limits may be exceeded only with the consent of the central bank concerned". This applies to all EMS members, not only those in the ERM. We know that the Bundesbank takes this rule seriously and sometimes refuses consent for the limits on DM holdings to be exceeded or allows a smaller increase than requested by other central banks.

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18. In addition to its own reserves of foreign currency, each ERM member has access to four credit facilities which can be used to finance intervention:

(i) The Very Short Term Financing Facility (VSTF);
(ii) The Mobilisation Scheme;
(iii) Short Term Monetary Support (the "Soutien");
(iv) Medium Term Financial Support (MTFS).

19. None of the facilities has been used very much. The most important of them is the VSTF, under which each of the central banks makes available to the others short term credit facilities in its own currency. These facilities are automatically available in unlimited amounts when they are drawn on to finance intervention at the margins. They are also available, subject to conditions, for intramarginal intervention. Details of the facilities are given in Annex C.

20. The central banks' accounts used in the VSTF and other facilities are with the European Monetary Cooperation Fund (EMCF). The EMCF is essentially a book-keeping operation. It issues ECU to central banks in exchange for deposits by them of 20 per cent of their gold and dollar reserves. These swaps are renewed every three months. The gold and dollar reserves do not actually change hands and the central banks continue to manage and earn interest on their dollar deposits. The 'official' ECU created in this way can only be used for transactions between EMS central banks (and certain other monetary institutions), for example for settling the debts incurred between central banks in operating the ERM. All EMS members currently take part in the EMCF swap arrangements, although non-members of the ERM are not required to do so.

21. The board of the EMCF consists of the Governors of all the Community's central banks.

Realignments

22. There have been twelve realignments since the EMS began. The last was in January 1990, when Italy moved to 2¼ per cent margins.

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Realignments have tended to become less frequent, as the ERM economies have converged and inflation differentials have been reduced. Member States are also perhaps less willing to devalue than they were.

23. Realignments have to be agreed by consensus among all ERM members. Member States seeking a realignment will usually sound out their partners to pave the way for an agreement. The Monetary Committee plays a key role in this preparatory process, and sometimes agreement can be reached in this forum. If not, a realignment conference of Finance Ministers, Central Bank Governors and the Commission will be necessary.

MG(1), 15 May 1990.

ANNEX A

European Currency Unit (ECU)

The ECU is calculated with reference to fixed quantities (a 'basket') of Community currencies. These amounts are reviewed at least every five years. They were last changed in September 1989, when the basket was enlarged to cover the Spanish peseta and Portuguese escudo. All Community currencies are now included in the ECU basket, which contains:

0.6242	Deutschemark	0.008552	Irish pound
0.2198	Dutch guilder	151.8	Italian lire
3.431	{Belgian francs	0.08784	Pound sterling
	{Luxembourg franc	1.44	Greek drachmas
0.1976	Danish krone	6.885	Spanish pesetas
1.332	French francs	1.393	Portuguese escudos

At present exchange rates (14 May 1990), each currency has the following percentage weights:

ERM currencies	Deutschemark	30.5
	French franc	19.3
	Italian lira	10.1
	Dutch guilder	9.6
	Belgian franc	8.1
	Spanish peseta	5.4
	Danish Krone	2.5
	Irish punt	1.1
Non-ERM currencies	Sterling	11.9
	Portuguese escudo	0.8
	Greek drachma	0.7

ANNEX B

The Divergence Threshold

1. Within its margins, each currency has a "divergence threshold" which is intended to give early warning of tension within the system. For this purpose, each currency has a Maximum Divergence Spread (MDS), the maximum permitted divergence from its central rate against the ECU. For any currency operating within the narrower margins, this MDS is always less than 2¼ per cent because it takes into account that currency's own effect on the movement of the ECU. A further complication is that non-ERM currencies are in the ecu (notably, of course, sterling), and their movements have to be taken into account. If a currency moves beyond 75 per cent of its MDS, the terms of the 1978 Council resolution provide that:

> ".. this results in a presumption that the authorities concerned will correct this situation by adequate measures, namely:
>
> (a) diversified intervention;
>
> (b) measures of domestic monetary policy;
>
> (c) changes in central rates;
>
> (d) other measures of economic policy.
>
> In case such measures, on account of special circumstances, are not taken, the reasons for this shall be given to the other authorities ....".

2. In practice, these provisions have been little used for two reasons. First, currencies have generally reached their bilateral limits before reaching the divergence threshold. Second, when the divergence threshold has been crossed first, action has rarely ensued - there is no obligation on participating central banks to act.

ANNEX C

CREDIT FACILITIES

(a) **Very Short Term Financing Facility (VSTF)**

1. Under the VSTF, credit is available between central banks to finance ERM intervention. The 1978 Council resolution and the central banks' agreements say that this credit is automatically available in unlimited amounts to finance obligatory intervention when a currency is at its permitted margins. In practice, a participating bank would not draw "unlimited" amounts from other members. In circumstances of very strong pressure on margins, other action possibly including a realignment, would be called for. The provision in the agreements of "automatic" and "unlimited" credit is there to ensure ready access to the facility for those who need it and to avoid the difficult question of the level at which a limit should be fixed.

2. When the intervention is intra-marginal, there is no automatic access but a presumption that VSTF will be available subject to certain conditions. In these circumstances, there is a limit on the amount equal to 200 per cent of quota under the short term monetary support mechanism (see below). And agreement is needed between debtor and creditor central banks before the intervention can be carried out.

3. For the purpose of operating the VSTF, each ERM member has an account (denominated in ECU) with the European Monetary Cooperation Fund (EMCF). Support is made available in participating currencies. Amounts drawn under VSTF are repayable after 2½-3½ months, though there are provisions for extending this period by 3 months and by a further 3 months for upto 200 per cent of quota.

4. The repayment provisions in the central banks agreement are not entirely clear. The creditor and debtor central banks may agree between themselves the currency or currencies in which VSTF debts are settled. And the creditor "reserves the right to

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request payment in its own currency if this appears necessary in the light of its own monetary conditions, taking into account the reserve position of the debtor central bank". But the debtor is allowed to repay in ECUs as long as:

(a) this does not result in the creditor bank's reserves having an unbalanced composition, and

(b) no excessive net debtor and creditor positions in ECUs emerge.

These provisions are set out in Article 15 of the central banks agreement, as supplemented by the minutes of the Committee of Central Bank Governors on 10 November 1987. The minutes do not define "unbalanced composition" of reserves nor "excessive net debtor and creditor position in ECUs".

5. The interest rate payable on VSTF drawings is the weighted average of domestic money market rates in the ECU currencies. Interest on a line of credit has to be paid in ECUs.

6. The VSTF was last used in November 1987 when DM7 billion were sold for French Francs in intra-marginal intervention. This was some 17 per cent of total intervention by EMS central banks in the second half of 1987.

(b) Mobilisation Scheme

7. In addition to intervention facilities available under the VSTF, there is a currency mobilisation scheme for all EMS participants, not just those in the ERM. Under this scheme, EMS members needing currency for intervention may swap part of their official ECU holdings for spot dollars for a period of 3 months, renewable for a further 3 months. All participants have agreed to make available to their partners upto 20 per cent of their

dollar reserves if required ie those reserves which have been "swapped" with the EMCF in exchange for official ECUS. The UK already has access to this scheme (and the associated commitment to lend upto 20 per cent of our dollar reserves).

8. Little use has been made of mobilisation so far. Italy drew on the facility in 1985 and 1987, but no other Member States have done so.

(c) **Short term monetary support (the "Soutien")**

9. This is a central bank facility, available to all Member States, to provide support for temporary balance of payments difficulties. Each member has a borrowing limit and a lending commitment, which are reviewed at least every 5 years. The facility has been drawn on only once, by Italy in 1974.

10. Total "debtor quotas" are ECU 8.9 billion (about £6.4 billion), of which the Bank of England's effective quota is ECU 0.7 billion (about £0.5 billion). Over and above these quotas, the central bank Governors' Committee may decide to extend additional support ("debtor rallonge"). The Soutien quotas are used to determine the amounts which can be drawn for intramarginal intervention under the VSTF: each ERM member may draw upto twice its Soutien quota under VSTF.

(d) **Medium term financial support mechanism (MTFS)**

11. In 1988, this replaced two previous credit facilities (medium term financial assistance and the community loan mechanism) which had been little used. The MTFS has itself not so far been used.

12. The object of the MTFS is to make medium term financial assistance available for Member States in balance of payments difficulties or seriously threatened with them. A loan is conditional on the borrower adopting economic policy measures designed to re-establish a sustainable balance of payments position. Lending decisions are taken by the Council, including decisions on amounts, duration, and economic policy conditions.

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13. The total amount of loans which can be outstanding under this facility at any time is limited to ECU 16 billion (around £12.5 billion). Loans are to be financed usually by market borrowing, upto a limit of ECU 14 billion, arranged by the Commission on the Community's behalf. If market conditions are unsatisfactory or the amount available through market borrowing is insufficient, the loans can be financed in full or in part by Member States, subject to Council agreement. The UK's contribution to any loan would be a maximum of some ECU 2.7 billion (about £2 billion). Any call on the UK for this purpose would count as public expenditure.