PO-CH/NL/0319 PT B

Part B.

SECRET

(Circulate under cover and notify REGISTRY of movement)

Begins : 14/3/88.

Ends : 21/7/88.

PO -CH /NL/0319

PART B

Chancellor's (Lawson) Papers :

PROFITABILITY OF INTERVENTION ON EUROPEAN CURRENCY UNITS

DD's : 25 Years

Anderson

27/10/95

PO -CH /NL/0319 PART B

SECRET

From : D L C Peretz
Date : 14 March 1988

MR A ALLAN

cc Economic Secretary
Sir P Middleton
Sir T Burns
Sir G Littler
Mr Scholar
Mr Odling-Smee
Mr R I G Allen
Mr Pickford
Miss O'Mara

BUDGET : MTFS : EXCHANGE RATE BRIEFING

The revised MTFS/Budget speech texts leave us exposed to a number of difficult questions on exchange rate policy - particularly on the differences from the Mansion House speech.

2. We have to put something in the budget brief, and we have given the following to Mr Pickford.

Does MTFS mark departure from Mansion House Speech?

No. Budget speech confirms exchange rates continue to play central role in domestic monetary decisions.

Government no longer committed to exchange rate stability?

No.

Stability has never implied ~~complete~~ immobility. Adjustments needed from time to time. With other governments, seeking more stable exchange rates.

Why no reference to particular importance of rate against deutschemark?

~~International co-operation aiming to achieve greater stability of exchange rates generally.~~ But exchange rate against deutschemark is what matters most to industry, so Government continues to attach particular importance to that.

3. I imagine the Chancellor will want to look at these lines before we go firm on the final version of the Budget brief tonight. In some ways the third is the hardest, in that we have no existing text to go on. But we need some answer on whether or not we still attach "particular" importance to the rate against the DM; and if we are to say we do it may be easier in present circumstances to link this to its importance to industry than to its value as a counter inflationary anchor.

DLCP

D L C PERETZ

mjd 1/122A

EXCHANGE RATES

Background

Various papers today report evidence by Treasury officials to the Treasury and Civil Service Committee, in particular about exchange rate stability and about the Deutschemark. A transcript of the relevant evidence is attached (NB this is provided informally by the Committee to enable witnesses to make corrections, and should not be quoted from directly).

2. As the evidence makes clear, Treasury officials were careful to stick to repeating points already made by ministers.

Line to take

3. Officials were ~~simply~~ repeating ~~earlier~~ statements of Government policy which I and my Rt Hon friend had already made, There has been no change in that policy, ~~which is - as my Rt Hon friend said in his Budget Statement - to maintain "from monetary discipline, buttressed by a prudent fiscal stance".~~

It pressed on DM

4. Officials were asked about the rate against the Deutschemark, and pointed out that since half our trade is with the European Community, the rate against European currencies is clearly of particular importance. That is self-evident.

RESTRICTED

Treasury Chambers, Parliament Street, SW1P 3AG
01-270 3000

23 March 1988

Jeremy Godfrey Esq
PS/Secretary of State
Department of Trade and Industry
1 Victoria Street
London SW1

Dear Jeremy,

LINE ON EXCHANGE RATES ETC

During their discussion yesterday, Lord Young asked the Chancellor for a suggested line to take on exchange rates etc. This is ... attached.

Yours

A C S ALLAN
Principal Private Secretary

LINE ON EXCHANGE RATES ETC

Exchange rate policy

The UK, along with other major industrial countries, is committed to seeking greater exchange rate stability. Instability in exchange rates is damaging for British industry, and for exporters in particular. But exchange rate stability does not mean immobility, and adjustments are needed from time to time. The Government never comments on exchange market tactics.

Industry has welcomed the greater exchange rate stability over the past year. But it is important that it also accepts the financial discipline inherent in this policy. The Government is not prepared to accommodate increases in domestic costs by allowing the exchange rate to depreciate. Firm financial policies are needed to keep downward pressure on inflation. The greatest threat to output and employment would come if the Government relaxed its anti-inflationary stance.

Interest rate policy?

Interest rates are set at the level necessary to ensure downward pressure on inflation. There is no evidence whatever that the present level of interest rates is damaging British industry: DTI's Investment Intentions Survey indicates 11 per cent growth in manufacturing investment in 1988, and this prospect is confirmed by recent CBI Surveys.

Competitiveness

The consistent trend of the 1980s has been that British manufacturers have maintained their share of an expanding world trade, after decades during which Britain's share was steadily declining. This is the crucial test of competitiveness.

Sent by fax

COVERING SECRET

PS/GOVERNOR 24/3/88.

Attached paper is for discussion at Friday's meeting. Please pass urgent copies to Deputy Governor and Mr George. Any urgent points should be phoned to Sir T Burns by 4 PM this afternoon (it has to go to No 10 tonight).

ACS Allan

1ST PAGE

3102/57

FROM: SHIRLEY MOODY
DATE: 22 FEBRUARY 1988

PRINCIPAL PRIVATE SECRETARY
PRESS OFFICERS
TELEPHONE SUPERVISOR

cc Mr R I G Allen

PRESS OFFICE DUTY ROTA

Please find attached duty rota from 1 - 31 March 1988.

S MOODY

EXCHANGE RATE POLICY

Monetary Policy and the Role of the Exchange Rate

1. The aim of monetary policy is to control inflation. It has been brought down from average rate of 15 per cent in the 1970s to 3¼ per cent today.

2. Progress in recent years has been less rapid but it is clear that the trend has been downwards. Inflation over the past two years has been markedly below earlier years. And the forecast shows this improvement being held. Mortgage rate changes introduce additional fluctuations and the underlying trend is clearer if they are ignored.

Inflation

	RPI Total	RPI excluding mortgage payments
1982	8.6	8.5
1983	4.6	5.2
1984	5.0	4.4
1985	6.1	5.2
1986	3.4	3.6
1987	4.2	3.7

3. In comparing inflation in the UK and elsewhere it is important to note that:

- lower oil prices helped other countries much more than UK as sterling fell during that adjustment period;

- the UK has experienced a number of years of sustained rapid growth. It is rare for inflation to fall in those circumstances; indeed it usually goes up.

4. The conduct of monetary policy has been difficult; partly because of changes to the financial system:

- broad money has been a particularly poor indicator throughout the 1980s. Chart 1 shows the lack of correlation between £M3 and inflation. This seems to reflect a number of

factors. High real interest rates have added to the attractiveness of financial assets in general; increased competition in financial markets has led to rapid growth in private sector liquidity and borrowing; and growing internationalisation of markets means that demand is intertwined with international capital flows and exchange rate expectations.

- narrow money (MO) has had a closer relationship with inflation (chart 2) and has a good record as an indicator of monetary conditions. But on its own it is not enough. It does not carry much market credibility; and it only gives a short lead, if at all, to inflationary trends.

5. Exchange rates have become a major complicating factor in the assessment of monetary conditions; they have shown substantial fluctuations - particularly the dollar. Very often the fluctuations are reversed; but not until they have moved a long way and had substantial direct and indirect effects.

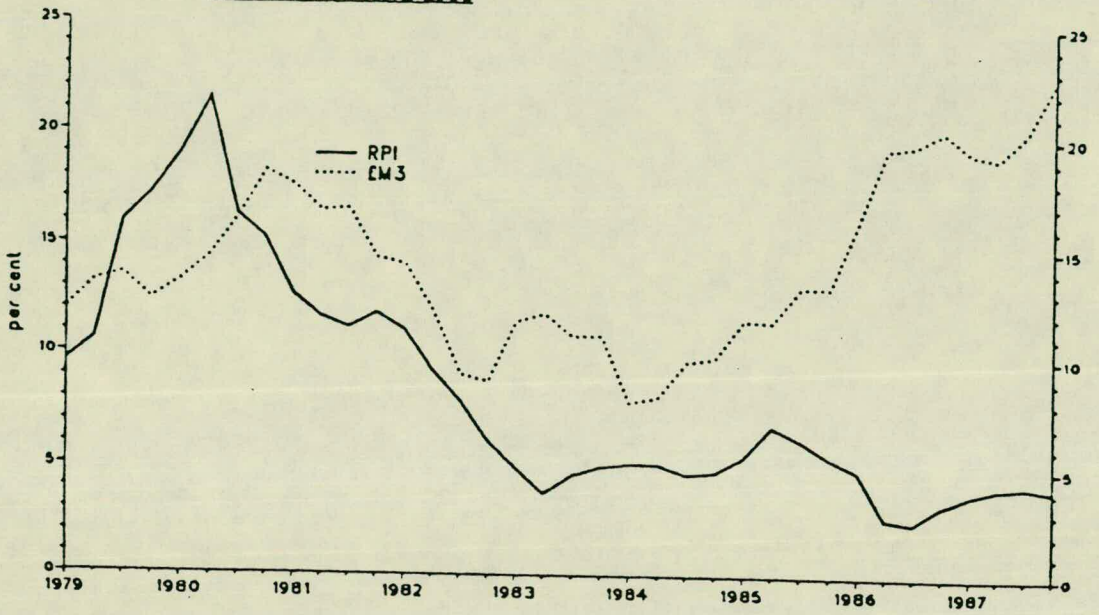
6. Exchange rate changes have an important impact on monetary conditions:

- appreciation will tighten monetary conditions. There is a direct effect on import prices; and appreciation squeezes profits of UK manufacturers by constraining ability to raise prices. Similarly depreciation will loosen monetary conditions;

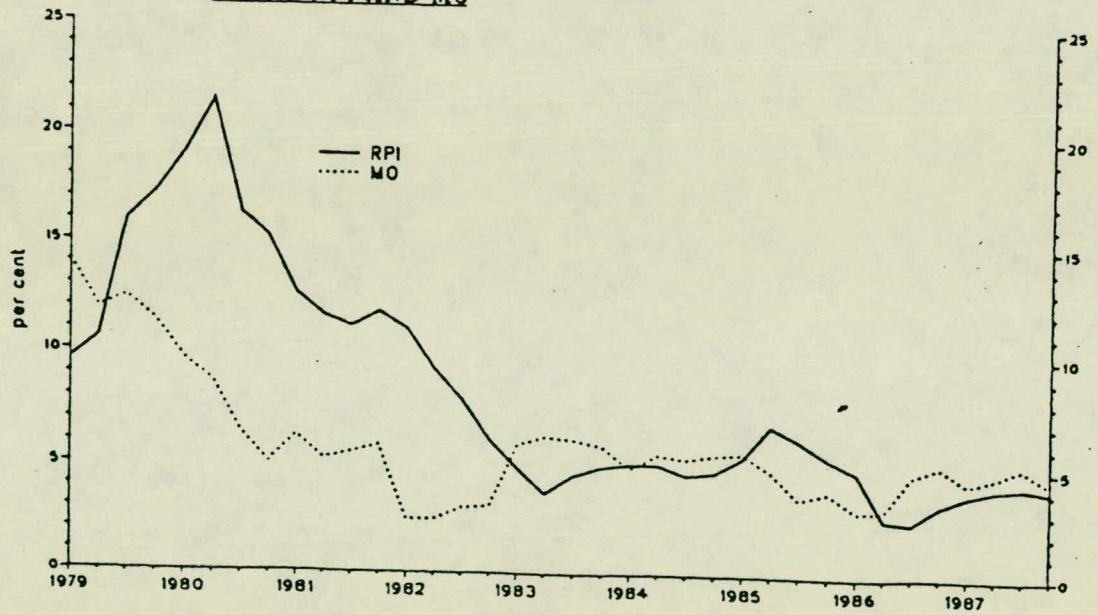
- and they can generate second round effects through their impact on inflationary expectations and wage negotiation.

7. In some respects a higher exchange rate can be seen as a substitute for higher interest rates. But there is an important difference. As compared with higher interest rates, tightening monetary policy through a higher exchange rate will produce a worse outcome for the balance of payments; it puts more pressure on exporters as well as those supplying goods at home who have to compete with cheaper imports; and less on the non-trading sector, particularly construction.

YEAR ON YEAR PER CENT CHANGES
IN THE RPI AND £M3

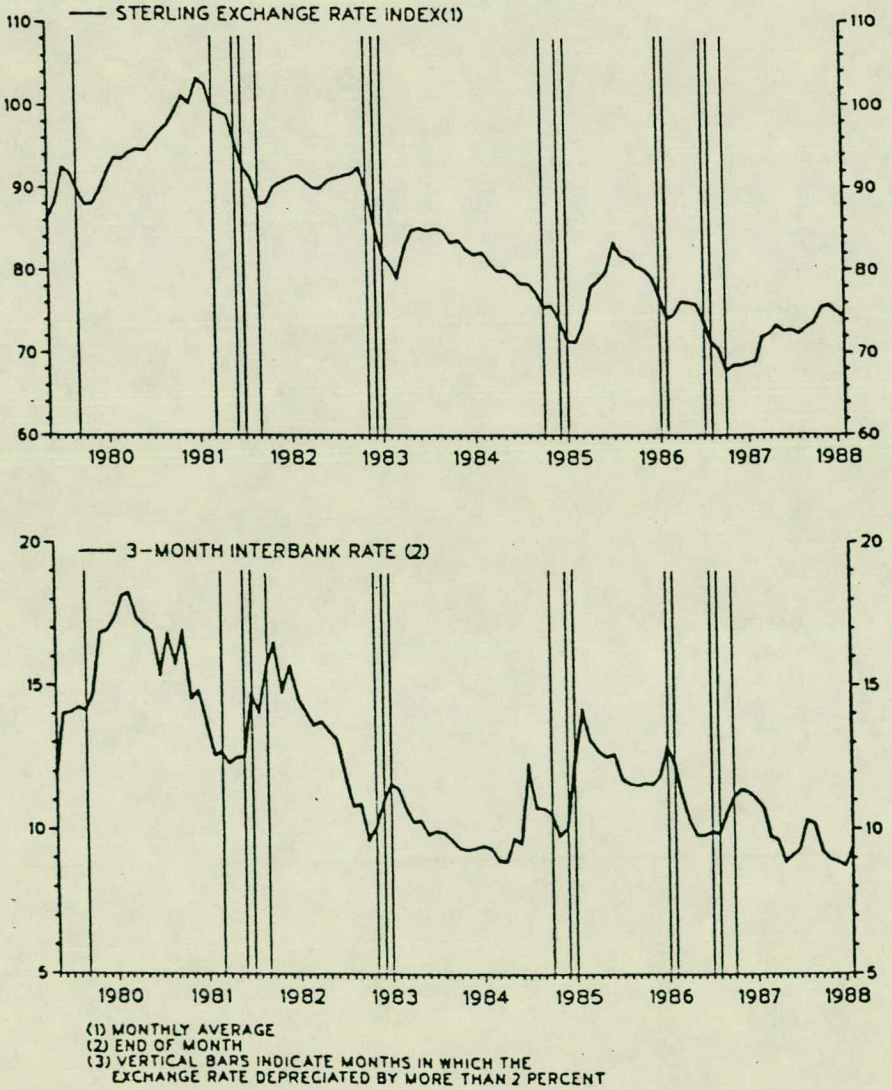


YEAR ON YEAR PER CENT CHANGES
IN THE RPI AND M0



8. Because of the importance of exchange rate fluctuations for monetary conditions we have given a substantial weight to exchange rates in monetary policy decisions for many years. In successive editions of the MTFS the importance of exchange rate behaviour has been emphasised. And interest rate decisions have often been influenced by exchange rate changes. Chart 3 compares the monthly path for the sterling exchange rate index and the 3-month interbank rate since mid 1979. The vertical lines indicate the months in which the exchange rate depreciated by more than 2 per cent. It is evident that this almost always coincides with interest rate increases. The most noticeable episodes were the Autumn of 1981, the Winter of 1982-83, January 1985, and the Autumn of 1986. A similar pattern applies in reverse. The periods of sterling strength coincide with interest rate reductions.

THE EXCHANGE RATE AND 3-MONTH INTERBANK RATE



(1) MONTHLY AVERAGE
(2) END OF MONTH
(3) VERTICAL BARS INDICATE MONTHS IN WHICH THE EXCHANGE RATE DEPRECIATED BY MORE THAN 2 PERCENT

9. The approach to giving the exchange rate a substantial weight in monetary policy decisions is not new. During most of the past 100 years the UK has directed monetary policy towards exchange rate stability - most evidently in terms of the Gold Standard. Nor is the approach unique to the UK. And increasingly other major countries are once again giving exchange rates a major weight in the conduct of policy. And for the same reasons: the difficulty of interpreting domestic monetary indicators at a time of structural change; and the important direct and indirect effect on inflation, activity and the balance of payments. The Swiss have been successful over long periods in keeping the Swiss franc steady against the deutschemark. The Germans and Japanese have also had considerable success in managing movements in their currencies. And Hong Kong, one of the freest markets in the world, has successfully operated a fixed exchange rate against the dollar since 1983.

10. Since 1985 the finance ministers and central bankers of the major industrial countries have explicitly recognised the importance of appropriate exchange rates in contributing to better economic balance and restraining protectionist pressures. In the wake of the decline of the dollar following the October stock market crash some commentators suggested that the Louvre agreement was a mistake. But as Paul Volcker observed in a speech in Geneva in November:

> "The argument of some seems to be that the agreement sacrificed appropriate internal economic management to the requirements of a stable exchange rate. That seems to me a misreading of both the nature of the understanding and, more broadly, the need to accord the requirements of exchange rate stability more prominence in economic policy-making."

He went on to say:

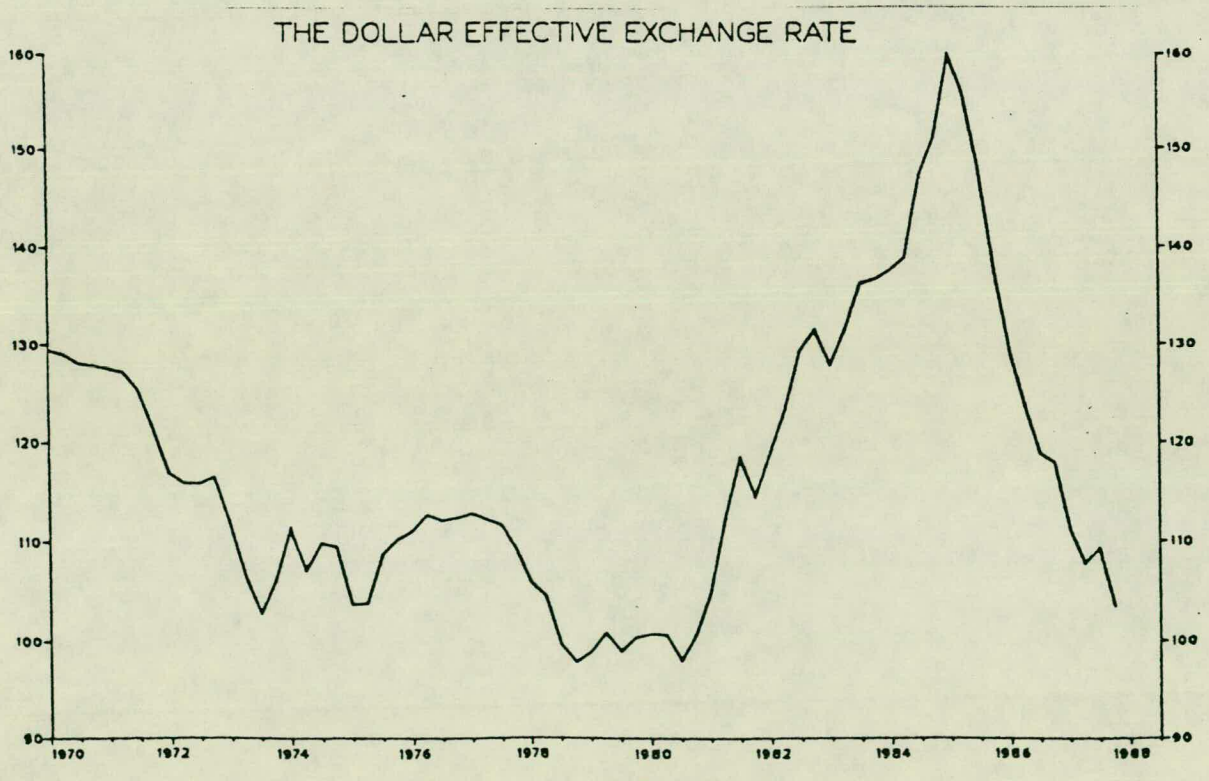
> ...the health and vitality of an open international trading order will be importantly dependent over time upon the willingness of governments of large trading countries to

reach some realistic collective judgments about the broadly appropriate level of exchange rates. Those judgments will, in turn, need to influence the design and implementation of domestic policies if they are to be meaningful and durable."

The Nature of the Foreign Exchange Market

11. In deciding the most effective way of taking the exchange rate into account it is necessary to consider the nature and characteristics of the foreign exchange market.

12. Gyrations of exchange rates are nothing new but they have been increased by the global 24-hour markets. Turnover has increased dramatically, but only a small part is related to commercial transactions.



13. In the long run the foreign exchange markets adapt to fundamentals but in the short run they do not. There are insufficient speculators who take a long view. Fluctuation away from levels consistent with fundamentals can take place for long periods; and they can be very large. Chart 4 shows movements of the dollar since the early 1970s. The rise and fall of the dollar since 1980 is inexplicable in terms of the underlying fundamentals of the US economy.

14. These fluctuations can be very damaging:

- scarce management time in business is taken up with currency fluctuations;

- swings of exchange rates dislocate businesses as profit rates and selling prices fluctuate;

- and because of the uncertainty companies take low risk decisions and are averse to investing where they fear they might find themselves uncompetitive later on.

15. Although the Government cannot control exchange rates precisely they can give a lead and keep exchange rates closer to fundamentals. They are not all powerful; but neither are they impotent.

16. Governments can have a significant effect on exchange rate movements; something that is widely accepted in the markets. Their influence stems from the size and importance of Government; in particular they influence some of the most important factors determining exchange rates - the budget deficit and interest rates. Not surprisingly the markets give weight to what they interpret as the authorities' preferences in developing their own market strategy.

17. Market expectations are influenced by Government behaviour. And as a result they constantly try to find out the Government's policy towards the exchange rate. In these circumstances it is counter-productive to have a complete hands-off policy. It is all too easily interpreted by the markets as a positive desire by the authorities for the exchange rate either to fall (as in January 1985) or - when the pressure is upward - to go on rising. And if other countries are operating a hands-on policy the fluctuations of sterling will be even greater and even more costly as it attracts even larger amounts of speculative funds.

Instruments of Policy

18. Interest rates are the key instrument of monetary policy. They are also the Government's most important instrument for influencing the exchange rate. A higher interest rate will raise the return on holding sterling. It will therefore attract inflows, tending to raise the exchange rate, except when it reflects expectations of higher inflation.

19. If sterling is rising for speculative reasons, and an appreciation appears to be unjustified on fundamental grounds, it is possible to exercise some restraint through lower interest rates. The strengthening of the exchange rate will tend to tighten monetary conditions while the lower interest rate will mean easier monetary conditions. By adjusting interest rates in the face of fluctuations of sterling it is possible to reduce the volatility of exchange rates without monetary conditions becoming too loose or too tight.

20. If the authorities attempt to stabilise the exchange rate through changes to interest rates a conflict of interest can occur. It is possible that the maintenance of exchange rate stability will involve interest rate changes that tighten or loosen monetary policy more than is desirable. In particular for a country with an above average inflation rate it may be pressed to reduce interest rates too much. In practice this dilemma only occurs infrequently. For much of the time it is possible to combine exchange rate stability with suitable interest rates. If

the pressure becomes too intense it becomes necessary to accept some change in the level of the exchange rate. But it may be possible to limit the extent of the change and a higher exchange rate leaves room for a lower interest rate for any given degree of monetary pressure.

21. It is sometimes suggested that economies generate a fixed amount of exchange rate-interest rate instability. If policy is directed towards limiting exchange rate volatility it is suggested this will be replaced by increased interest rate volatility. But this ignores the impact of policy upon expectations. The reduction of exchange rate volatility may reduce the speculation surrounding a currency and in time, as credibility is increased, lead to greater stability of interest rates. A comparison of experience between countries and over time lends no support to the hypothesis of a fixed amount of instability. Although the underlying reasons are complex periods of exchange rate stability are usually associated with less rather than more interest rate volatility.

22. Intervention also has a role to play in helping the Government to counteract potentially damaging short-term movements in exchange rates. Although the total flows across the foreign exchanges are enormous in relation to the funds that Government can deploy to meet its objectives many of the private sector flows are offsetting transactions as market participants hedge positions. In net terms even quite modest sums deployed in intervention can have a useful effect. This is especially true if intervention is co-ordinated between countries. Much of its effect comes through the signals it gives the markets of the Governments under policy intentions - since the market knows that fiscal and monetary policies can have a powerful effect on exchange rates.

23. Intervention is particularly useful in conditions of sudden surges of buying or selling because it is easily reversible. If offsetting action is limited to interest rates it could lead to

unnecessary large interest rate changes which are undesirable in themselves and in any event can look incompetent. Intervention can avoid some interest rate volatility. And intervention helps to demonstrate in a subtle way the Government's exchange rate preferences without explicit statements about ranges. It can give a signal without being pinned down to a particular range. And it is possible to vary tactics between currencies, and more or less obviously. Given the markets' interest in the Government's views this can lead to stabilising speculation.

24. The impact of intervention upon monetary conditions is often misunderstood. Obviously if, in the absence of intervention, the exchange rate would have been higher or lower, there will be some effect on inflationary pressures. But there need be no monetary consequences. In the UK system the Bank of England immediately offsets any effect of the intervention upon the monetary base by its own market operations. And over time we have had a policy of offsetting any effect it might have upon liquidity by funding. Even over the past year when intervention has been very high we have succeeded in fully funding it. As a result there have not only been no monetary effects, but no liquidity effects either.

25. The profitability of intervention is an operational consideration but this can only be evaluated when the intervention is unwound. Because the swings away from fundamentals can exist for some time there will be accrued losses at particular moments. But the large swings in exchange rates mean that opportunities do emerge for profitable intervention that would only become apparent after several years. It is important to accept that the aim is not to maximise profits from intervention - that would lead us to behave like other short-run speculators. Instead the aim is stabilising intervention that incidentally makes <u>some</u> profit.

26. When a currency is strong intervention serves as an insurance policy. It accumulates reserves that become available if pressures are reversed. If the currency appreciates over the longer term any exchange rate losses will look small by comparison

with the success of the economy; and if it is a temporary strength, the intervention will reduce fluctuations and make a profit.

27. There are limits to the effectiveness of intervention. This means that it should not become a way of life, and can only be a subsidiary instrument. But at times it can play an important part. It would be a mistake to have a policy of never using it particularly when it is one of the few instruments available in a free market economy; but equally it must be used in a controlled way.

Experience over the past year

28. Although the exchange rate has played an important role in monetary policy decisions for many years it has had a greater weight over the past year. There have been a number of reasons:

- in the Autumn of 1986 sterling had been under considerable downward pressure. Interest rates were raised by 1 per cent to halt the slide. The Chancellor made clear that any further depreciation would be undesirable;

- in the Louvre agreement the major 6 industrialised countries agreed to co-operate to foster increased exchange rate stability whilst working to correct the fundamental reasons for the trade imbalances. In February the Chancellor made clear that he was more content for sterling to rise than to fall. This was expressed in terms of the DM rate as this is the single most important currency for UK manufacturing industry;

- in the run-up to the General Election in June there was a clear case for restraining the rise of sterling to avoid a speculative bubble emerging that could be very inconvenient for the conduct of policy during the election;

- and in the aftermath of the share price crash on October 19 there was a premium in maintaining as much stability as possible whilst confidence was restored.

29. The apparent importance of the 3DM rate grew out of these events. Once the market had seen some resistance at 3DM it hesitated to push very hard. And the longer sterling was maintained within the 2.90-3.00 range the more reluctant they were to push and we were to see it breached. There were clear gains to industry from stability; and benefits in the form of firmer expectations of the likely scale of exchange rate fluctuations.

30. The cumulative scale of the intervention was greater than would normally be desirable. But it has done no damage to monetary policy because it has been offset by funding. And it has helped to establish the Government's commitment to limiting the scale of fluctuations. So long as that commitment is continued and clearly understood, in future it should be possible to achieve a similar result with much less intervention.

31. It became clear on March 4 that the scale of exchange rate pressure was greater than could be coped with by intervention. And there was no scope for reducing interest rates as we already had concluded that, if anything, monetary conditions were on the easy side.

32. Since then the exchange rate has risen but because there have been tighter monetary conditions it has been possible to reduce interest rates by ½ per cent.

33. In reflecting on the events of the past year it is important to recognise that the present situation is very different from 1980-81 when sterling rose so sharply. There is no inconsistency between what was allowed to happen then and what we would prefer now. The circumstances then were very different: inflation was almost 20 per cent; North Sea oil was having a big impact; public expenditure and the budget deficit were not firmly under control;

Taking the exchange rate "into account"

37. This was the presentation used for much of the 1980s. It means setting interest rates in a purely judgemental way in the light of the behaviour of a range of indicators, including the exchange rate.

38. **Advantages:**

- helps to balance monetary conditions so that not excessive loosening or tightening of conditions;

- avoids unnecessary oscillation of inflation rate;

- some effect in curbing excessive swings of sterling with benefit to industry;

- maximum tactical flexibility by avoiding any question of particular ranges;

- intervention can be limited to smoothing.

39. **Disadvantages:**

- gives little in the way of a steer to markets. Lose some of gains of stabilising speculation;

- can involve unnecessary degree of exchange rate volatility;

- markets will constantly press for a more explicit statement about exchange rate policy;

- it requires considerable judgement balancing factors;

- only a weak anchor against inflationary expectations, so likely to require higher interest rates.

it was important to assert credibility for a non-accommodating policy stance; there was a need for a shock to expectations generally; and it was impossible to be sure for several months that broad money was giving the wrong signals.

34. It is also important to see the resistance to appreciation as an important component of avoiding excessive depreciation. We are all agreed that a firm anti-inflationary stance requires a commitment not to bail out excessive growth of labour costs by devaluation. If the impression is given that the exchange rate will go wherever it is pushed the market will also assume that a lower exchange rate will be accommodated if confidence is reversed. In these circumstances holding the exchange rate will involve higher interest rates than would have been necessary if a presumption of stability has been created. On the other hand if it is clearly understood and accepted that cost rises will not be accommodated by allowing the rate to fall, then the same degree of downward pressure on inflation can be achieved with lower interest rates.

Options

35. The discussion in this paper suggests that:

- the Government must continue to give the exchange rate a substantial weight in the conduct of monetary policy;

- in the process it is desirable to have an explicit objective for greater exchange rate stability.

36. There are three main alternative approaches:

- taking the exchange rate "into account" in the conduct of monetary policy;

- an explicit statement about the desire for greater stability combined with a notional but unpublished range;

- full membership of EMS.

Greater Stability

40. This is a more formalised approach. It would involve an explicit statement about the desire for stability. We would operate a notional, unpublished range. Interest rates would be adjusted to keep exchange rates within that range, supported by some intervention. There would be periodic changes to the range if market pressure were sustained so that interest rates were pushed too low or too high, intervention was too great, or MO growth was too fast or too slow.

41. There are various degrees of formality, depending on: width of range; frequency of changing range; extent to which change range; amount of intervention before changing range.

42. **Advantages**:

- clear signals about exchange rate, especially important for business decisions and investment.

- mechanism for reducing exchange rate volatility;

- maintains appropriate degree of disinflationary pressure;

- uses all instruments available;

- range unpublished and therefore no bureaucratic operations involved in changing.

43. **Disadvantages**:

- less certainty for both business and for inflationary expectations than a published range although more than "taking into account";

- markets will test to find range;

- intervention will be necessary from time to time;

- there is no obvious way of distinguishing a change of range from a change of policy.

Membership of ERM

44. **Advantages:**

- makes commitment to exchange rate stability clear. Advantages for industry;

- if realignments are necessary, it is clear that overall policy remains the same;

- simple to explain policy to public and markets;

- useful anti-inflationary discipline;

- reduce scale of market pressure during periods of turbulence.

45. **Disadvantages**

- changes of ranges require discussion with other members of ERM;

- present ERM is dominated by Germany and Deutschemark;

- could be greater pressure at times meaning larger interest changes and intervention;

- could sharpen conflict with other objectives of monetary policy.

Conclusion

46. In a complex world there is a great advantage in explaining and presenting policy in a clear way. A major object of monetary policy is to give guidance both to the market and to the economy at large. This is why we publish the MTFS.

47. Once a policy has been formed it is essential to explain it and to act in a way that will bring it about. If a policy is made clear markets will support it by forming expectations in relation to Government statements and actions.

48. The original ambition of the MTFS was to conduct monetary policy in relation to monetary targets. For a variety of reasons that has not been possible - and the exchange rate has played an increasing role. There is a lot to be said for conducting policy towards the exchange rate in a way that can be understood. It does not need to be too precise. But if they understand it, see actions confirming it, and believe other policies are consistent with it, markets will respond in a constructive way rather than a destabilising way, and business confidence and hence enterprise will be enhanced.

23 March 1988

MC3.42

PERSONAL

FROM: MARK CALL
DATE: 24 MARCH 1988

CHANCELLOR

cc Mr Cropper

LORD YOUNG AND EXCHANGE RATES

Ian Stewart of CRD tells me that Peter Luff, one of Lord Young's special advisers, had been on to him. Luff was at great pains to stress that Lord Young felt his remarks on exchange rates had been taken out of context by the media, and that he had had no intention of undermining your position. Even Ian, not the possessor of a highly suspicious nature, wondered whether that was entirely credible given Lord Young's undeniable media skills. Peter Luff was trying to find out what had been your reaction to Lord Young's apology. Ian says he was non-committal.

MC

MARK CALL

35/1/1498/JJ/43

COVERING CONFIDENTIAL

FROM: MISS M O'MARA
DATE: 24 MARCH 1988

PARLIAMENTARY SECTION

I have amended.
MM.

cc Mr Peretz
Mr R I G Allen
Mr Pickford
Ms Goodman

PRIME MINISTER'S QUESTIONS: ROGER BOOTLE ARTICLE

As requested by the Chancellor's office, I attach briefing on the article on the profitability of UK intervention by Roger Bootle which appeared in the 'Financial Times' of 23 March

Some suggested amendments marked

MOM

MISS M O'MARA

LINE TO TAKE

Intervention has cost taxpayer £3 billion during 1987

~~The ingenious~~ Those calculations ~~produced by Mr Bootle contain one fatal flaw: they~~ do not recognise that the UK has substantial dollar liabilities as well as assets. While our assets may be lower in sterling terms as a result of the dollar's fall, our liabilities ~~will be smaller~~ are similarly diminished. too.

~~Questions of actual profit and loss only arise, of course, when intervention is unwound. In any case, quite wrong to assume~~ Any or (would in any case was authorities intervene in the market primarily in order to make a profit: that is the role of the short-term speculator. But since we tend to buy dollars when sterling is firm and sell them back when it is soft, intervention has generally proved profitable over time.

Why not publish effect of intervention on public accounts as Germans do?

Neither this Government, nor any previous one, has ever done so.

~~In UK, successive Governments have found exchange market intervention tends to be more effective the less that is revealed in public about its precise details.~~ [IF PRESSED: It is a longstanding practice that if the PAC chooses to examine the Treasury on the EEA, an abstract of the accounts is shown to the Committee in confidence.]

Moreover, there is little significance in calculations, even of the net position, over an arbitrary short period of time. Indeed, the question of profit or loss usually arises only when reserves acquired are subsequently disposed of.

PPS

cc Sir P Middleton
Mr Peretz
Miss O'Mara

CONFIDENTIAL

(see also letter below)

From : D L C Peretz
Date : 24 March 1988

MR R I G ALLEN

cc PPS
Sir P Middleton
Miss O'Mara

THE MONEY PROGRAMME : LORD YOUNG

As I mentioned, the Money Programme are apparently running a feature on the exchange rate this weekend, and have been pressing Lord Young to appear. The DTI declined. They were then pressed for a statement from Lord Young that could be quoted. Again they declined. Finally they were asked for a statement they could use about the relationship between exchange rate movements and trade. On this DTI officials feel that Lord Young ought to be prepared to offer some kind of on the record statement.

2. They have sent me the attached text for clearance. As it stands there is not a great deal to object to, though I would want to suggest the change marked at x.

3. That does however leave the question of whether it is right for the only Government statement quoted on this programme to come from Lord Young, or whether we should try to balance it with something of our own. On that I suppose the natural course would be to point the Money Programme towards the Chancellor's various recent on the record comments, including that in the House of Commons on 10 March, and the section in the budget speech.

4. Given Lord Young's statement earlier in the week, it seems to me not unhelpful to have him saying something like this.

5. I am asked for clearance of the text by lunchtime today, but no doubt that deadline is to some degree flexible.

D L C PERETZ

RIG. 24/3

£/DM EXCHANGE RATE AND TRADE

Germany is our second largest individual export market, following the United States. The EC, whose main currencies are tied to the DM already takes half our exports; and with the creation of the single market by 1992, it will increasingly be our most dynamic market. Our Community partners are our main competitors both in many third markets and in the UK. Competitiveness with our EC partners (and our other competitors) is therefore essential to the continued transformation of our economic and industrial prosperity that we have seen over the past seven years.

Competitiveness is not just a question of price. ~~In fact~~ aspects such as quality, design, reliability and after-sales service are often more important. In a world of increasing volatility and competition from low-cost industrialising countries, sustained success will mean moving up-market to less price-sensitive products; competing on excellence.

But price remains important and broad stability of exchange rates removes one major element of uncertainty for business. ~~We have maintained broad stability against the DM [around a realistic rate] over the past year. That~~ Stability does not mean no movement at all. But the policy remains unchanged. Also unchanged is the Government's determination not to allow sterling to depreciate to accomodate excessive increases in domestic costs. Experience ~~in the 1960s and 1970s~~ has shown beyond question that competitiveness cannot be achieved by a policy of depreciation.

dti

the department for Enterprise

RESTRICTED

The Rt. Hon. Lord Young of Graffham
Secretary of State for Trade and Industry

Alex Allan Esq
Principal Private Secretary to the
Chancellor of the Exchequer
HM Treasury
Parliament Street SW1P 3AG

Department of Trade and Industry

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CH/EXCHEQUER
REC. 24 MAR 1988
ACTION
COPIES TO

Direct line 215 5422
Our ref DC4AIJ
Your ref
Date 24 March 1988

Dear Alex,

LINE ON EXCHANGE RATES ETC

We spoke this morning about your letter of 23 March to Jeremy Godfrey when I explained that Lord Young did not feel the suggested line to take you had proposed entirely fitted the bill. He was especially concerned about this given that he is to appear on 'Any Questions' tomorrow with Tony Blair MP.

We have tried our hand at a possible line to take here and I am attaching this for your comments. It would be helpful if we could have these by close of play tonight.

Yours ever

Steph Ratcliffe.

STEPHEN RATCLIFFE
Private Secretary

the Enterprise initiative

Points on exchange rate policy

1. Exchange rate policy has to be shrouded in a certain amount of mist anyway - markets can react strongly to evident government intervention - and even to Ministerial statements - and so undermine the policy.

2. Government recognises industry's desire to avoid wild fluctuations in the value of the pound - that is why we are working with other governments to keep the value of our currencies more stable.

3. But government cannot guarantee a stable pound - its value inevitably reflects what world markets think about such things as the strength of the UK economy and the level of our interest rates.

SECRET

Handed round by Pöhl at beginning of G-5

12.4.1988

UNDERSTANDING OF THE G-7 COUNTRIES
ON THE INTERVENTION AND CONSULTATION

1. Within the framework of economic and financial policies directed to the further reduction of external imbalances the participants would hold regular consultations on exchange market developments. On the basis of these consultations they would take decisions on exchange market interventions if there is a tendency for exchange rates to deviate from levels regarded as appropriate under present circumstances. Interventions should be considered if the dollar shows a tendency to fall markedly below or rise markedly above present levels vis-à-vis other major currencies.

2. The United States, Japan and Europe (European members of the G-7, other EMS countries, Switzerland and Austria) would be prepared to undertake intervention up to a total of $ .... billion, defined in terms of purchases/sales of dollars against Yen and DM/other European currencies, with approximately equal shares over time up to $ .... billion each. [As a general rule the European share of $ .... billion should be provided by the Deutsche Bundesbank on the one hand and the other European countries on the other hand in equal parts.]

3. If intervention in the view of all participants is useful, they will consult on timing, tactics, amounts and currency composition, taking into account market developments in their respective time zones. It is understood that for all intervention by European countries the situation in the European Monetary System is taken into account. No EMS-country in the exchange rate mechanism is expected to intervene, if this could cause strains in the EMS.

Basis not acceptable

- wrong.

SECRET

4. Interventions of participants have to be consistent, in particular with respect to the currency used in intervention. The general rule would be:

- For the United States, equal priority to DM/dollar and Yen/dollar, depending on market pressure. Liquidity effects caused in the country whose currency will be used for intervention will be taken into consideration;

- For Japan, priority to Yen/dollar;

- Intervention in dollar/Yen by the Deutsche Bundesbank and in dollar/DM by the Bank of Japan will be subject to consultations between these two central banks and the US authorities. This consultation should take place when either the dollar/DM rate or the dollar/Yen rate is under pressure.

- For Europe, equal priority to DM/dollar and other European currencies/dollar. After prior consultation with the Deutsche Bundesbank other European countries could use DM out of existing balances as currency of intervention.

5. Central banks would continue to maintain close contacts on intervention operations pursuant to established channels. Finance ministries would continue to discuss matters of mutual interest through their bilateral channels of communication.

6. This understanding would enter into effect when adopted by the participants in connection with the April 1988 G-7 statement and remain in force until the .... meeting. In the event that the $ .... billion of resources are exhausted prior to that meeting, participants would immediately consult.

Case 1
Strong currencies: $, £, DM SECRET
weak currencies: French franc

Annex 3.

There would in this case be no need for G7 intervention.

The US would probably be inactive (they might wish to buy some yen which presumably would be weak).

The UK's cross rate against the DM would probably be little changed and would not therefore require UK intervention. If there was need, we could - against £* - buy yen, francs (helpful to EMS), ecu and subject to principles 2 and 3 a mixture of DM and francs. (NB see below the French would probably be selling DM). If we had previously done more than our share of $ support, we could sell $ as well as £.

Germany would probably be inactive, but might - for EMS reasons - be buying francs for DM.

The French would be buying francs for DM.

Case 2
strong currencies: £, DM
weak currencies: $, franc

G7 support for the $ would be operative. However, the French might be reluctant to do their share, at least immediately.

The US would presumably be selling DM (helpful to EMS) and yen.

The UK would buy $ against £ in support of G7 up to our share (principle 1). Beyond our share, the position - if we needed to intervene to keep down the cross rate against the DM - is as in option 1.

The Germans would buy $ for DM (incidentally helping the franc) and possibly for EMS reasons francs for DM.

The French as in (1) would want to sell DM for francs. They would almost certainly not wish simultaneously to support the $ by buying it for francs. They could support the $ by buying it for DM but might be reluctant to see this double drain on their DM resources. They might therefore lag in meeting their share of G7 intervention.

* Not necessarily direct, possibly via the $ but having no net impact on the $

Annex 3

SECRET

Case 3
strong currencies: $, DM
weak currencies: £, franc

There would be no G7 support of the $.

The US would, as in case 1, probably be inactive or willing to buy yen for $.

The UK might wish to sell $ or DM to support £. The first would be consistent with our G7 obligations if we had previously done more than our share of G7 support, the second would help the franc.

The Germans would give EMS priority in the absence of G7 issues.

The French as case 1.

Case 4
strong currencies: DM
weak currencies: $, £, franc

G7 obligations here would have the US and the Germans selling DM for $, the UK and France under pressure to sell either DM or their own currency for $ but possibly reluctant to do either; both might therefore in the short term lag in their share of G7 support.

The US would therefore be buying $ for DM.

The UK could square the problem described above by selling DM and/or 'cheating' on our forward book (letting the total and $ component decline - effectively selling $ without admitting it). If this weren't sufficient we might have to sell $ spot and effectively drop out of G7 commitments.

The Germans would buy $ for G7 reasons and possibly francs for EMS reasons.

The French would face similar problems to us (this is, for them, the same as case 2).

SECRET

G7

December 1987

UNDERSTANDINGS ON INTERVENTION AND CONSULTATIONS

1. The participants would hold regular consultations on financial market conditions. On the basis of these consultations, they would make ad hoc decisions on exchange market intervention at levels which the participants consider appropriate under present circumstances. Intervention should be considered if the dollar on the one hand had a tendency to fall below present levels and on the other hand if it approached levels prevailing at the time of the April Meeting of the Group of Seven in Washington.

2. The United States, Japan and Germany/Europe would be prepared to undertake intervention up to a total of $15 billion defined in terms of net purchases/sales of dollars against yen and -- according to the following understanding - against DM/other European currencies, with approximately equal shares over time up to $5 billion each. As a general rule the European share of $5 billion should be provided by Germany in DM on the one hand and the other European countries (EMS-countries in the exchange rate mechanism, plus United Kingdom, Switzerland and Austria) on the other hand in equal parts. If these other European countries intervene by a higher amount, the total European share will be increased correspondingly.

3. If intervention in the view of the participants is useful they will consult on the appropriate daily amounts of such intervention and their respective shares, taking into account market developments and the respective shares of the countries mentioned in para 2. It is understood that for all intervention by European countries the situation in the European Monetary System will be considered.

4. With regard to the currency of intervention, the general rules would be:

   - For the United States, equal priority to DM/dollar and yen/dollar, depending on market pressure;

   - For Europe, priority to DM/dollar, supplemented by European currencies against dollar;

   - For Japan, priority to yen/dollar;

   - Intervention in dollar/yen by the Deutsche Bundesbank and dollar/DM by the Bank of Japan will be subject to consultation between those two central banks and the U.S. authorities. This consultation should take place when either the DM/dollar rate or the yen/dollar rate is under pressure.

16.12.87 20:27

5. Central banks would continue to maintain close contacts on intervention operations pursuant to established channels. Finance ministries would continue to discuss matters of mutual interest through their bilateral channels of communication.

6. This agreement would enter into effect when adopted by the participants in connection with the December G-7 statement and remain in force until the early 1988 meeting. In the event that the $15 billion of resources are exhausted prior to that meeting, participants would immediately consult.

Pohl circulated at the G5 meeting in Washington on 13 April, and the G6/G7 "understandings" on intervention agreed at the Louvre and in December 1987.

5. The underlying German concerns are to avoid carrying what they would see as more than their fair share of intervention to support the $; to prevent others intervening in DM in a way that makes this task more difficult and to protect the smooth operation of the EMS; a concern about the domestic monetary effects in Germany of DM intervention by others; and a wish to prevent the DM evolving into full reserve currency status.

6. Taking these in turn, we have also been concerned that we have carried more than our **"fair share" of supporting the dollar.** The figures depend on definitions but on the basis of market intervention reported on the central bank concertation, $ purchases since the Louvre divide roughly as follows :-

$ bn.

US	Japan	France	UK	Germany
10	28	8	28	5

7. Defined as the net increase in $ reserves (ie net of borrowing etc) the figures would look rather different. For the UK, the change in our holdings of dollars spot and forward since Louvre (taking out increases resulting from foreign currency borrowing and reductions resulting from repayments) is less than $20 bn, rather than the $28 bn on the previous basis. For other countries we do not have the detail necessary to produce comparable figures. The nearest we can get is changes in their spot holdings of dollars (with no adjustment for foreign currency net borrowing and also counting dollars put into the EMCF swap as ecus). On this basis the figures between end-January 1987 and end-March 1988 would be :

$ bn.

US	Japan	France	UK	Germany
5	12	3	10	13

8. On either of the above bases, the figures from the December G7 communique to the present show a rather different picture from those covering the whole post Louvre period. Taking just the UK, we have bought 0.7 bn $ on the basis used in table 1 and reduced our net $ holdings by $1½ bn on the basis of table 2. (It is worth noting that the Japanese, it seems, have heavily reduced their $ holdings since December).

9. On either basis of comparison it would thus suit us to agree to a more systemic basis than hitherto for monitoring shares so long as this can be done on a cumulative basis backdated to the Louvre. It would be entirely reasonable to argue for this, although unfortunately the formal position is that the December G7 understandings restarted the clock from that point. We would also happily accept that all net European intervention in $s should count towards the European share of the G7 total (at present the Americans unreasonably seek to disregard anything except $/DM intervention).

10. **We cannot however accept that once our G7 obligations (however defined) are met we should then be debarred from buying DM unless the Bundesbank agree.** (The Germans of course will assert that this contravenes the EMS central bank agreements). The effects of intervention are not entirely mechanistic (since it has effects on market psychology and gives a signal of the authorities' wider policy intentions). But if they were, intervention designed to hold the £ steady against the DM without affecting the cross rates between other currencies should in theory be undertaken in a basket of the major currencies, in which the DM would have an appropriate (fairly heavy) weight. Nevertheless we could perhaps accept, for the future, that it looks badly co-ordinated and could be counter-productive if two central banks are intervening in opposite directions in the same currency at the same time, and that should be avoided.

11. As it happens **our intervention causes less problems for German monetary management than does ERM intervention**, because the latter is financed by the Bundesbank through the ERM swap mechanism and therefore affects the German monetary base and the Bundesbank's money market operations. Our purchases of DM merely tighten German monetary policy in the same way as private sector purchases - by putting upward pressure on the DM, and increasing demand for DM liquid assets without affecting the supply.

12. As to the **reserve currency argument**, the Germans should accept - along with other members of the G5/G7 - that their currency is an international reserve currency, and that this carries with it responsibilities (including the responsibility for resisting inflation) and some potential difficulties, as well as benefits.

Form of European intervention agreement

13. In general we think we should be aiming for a broad statement of principles. In fact all countries will want something that gives leeway for interpretation according to circumstances. A draft list of points we think we could accept and/or would positively want is attached immediately behind this minute. We need to consider whether to table a note of this kind either at the initial meeting or later on. Initially it may be best to use it as a negotiating brief.

14. Each of the points in the note requires some comment, which follows. But first I should make a general point.

15. There is a question (see paragraphs 6-8 above) about **how we should define "intervention"** for the purposes of these understandings. At present this is far from logical. We have tended to interpret it as meaning market intervention (defined as intervention reported to other central banks on the concertation) - leaving us free subsequently to adjust our reserves composition by non-visible or off market transactions. A wider definition may be implied in Pohl's letter, though the Bank of England do not believe it is.

16. In logic we should be concerned with the extent to which central banks are financing the US current account deficit. This would point to focusing on total intervention, ie total reserve changes excluding valuation and borrowing transactions but including interest receipts. We would want to exclude forward transactions and would not expect others to take a different view.

17. A definition on these lines could suit us, subject to the point in paragraph 9 above. We are not sure how others would react. One point on which we think an argument would be likely is whether also to exclude payments of interest on net reserves. This would have a big effect for the Bundesbank. At present they are effectively adding large dollar interest payments to their reserves and not counting them as intervention. They might welcome the chance of counting them. Equally the US might strongly resist.

18. Although a decision (inclusion or exclusion of interest payments) would affect the figures substantially, we reckon we could accept either, provided that the calculation were backdated to February 1987.

19. This approach has an appealing logic and (possibly deceptive) simplicity, but it may nevertheless not commend itself to others, who may prefer to stick to the rather fuzzy existing definitions of what is and what is not reported. My own view is that we should play our hand on this pretty carefully, for the approach will only suit us well if we can get it backdated to February 1987. As the figures in paragraph 8 show, if the clock starts in December 1987 this approach would be distinctly difficult for us. What we want to avoid above all is an argument about what is and is not included that results in a formulation that unduly restricts our freedom of action.

20. Now for a point by point commentary on the attached list of points :

- **Point 1** seems to be something on which we and the Bundesbank agree; unless the first sentence of Pohl's first tiret is intended to exclude our $ intervention on the grounds that it was not intended to "stabilise the $".

- **Point 2** is again one where we can agree with the Bundesbank. Our share of the non-German European commitment might come to perhaps 15%, if we used ecu weights to divide up non-German EC shares.

- **Point 3** is as far as we could go (ie not very far at all) towards accepting that intervention in DM should only be with Bundesbank permission. It simply records the de facto position : that the Bundesbank co-ordinate the European contribution to episodes of concerted $ intervention. We think it is important to avoid language of Bundesbank "permission". As a purely procedural point, it would probably come better at the very end of the list.

- **Point 4** is a further Bundesbank proposal (second tiret of Pohl's letter) which we suggest we accept (see paragraph 9 above). This would be our "concession".

- **Point 5** seeks to express in a general formulation the concerns underlying the third tiret in the Pohl letter, as well as the related circumstance that has proved difficult for us in practice. On our interpretation we would not refrain from DM purchases if the ERM was stretched, but balance them with purchases of other ERM currencies. Phrased as a best endeavours clause we think this is reasonable and indeed difficult to argue against; and the US (who would not accept an ERM override to G7 intervention) should also find this formulation reasonable.

- Given German comments it is worth establishing **Point 6.** This certainly is our understanding of what the EMS texts mean. The proposal is entirely in the spirit of removing obstacles to the development of the ecu. If pressed we could accept it is subject to Point 5.

- **Point 7** is a quid pro quo that we and the French might look for from any agreement. Even if in the end the Bundesbank do not agree, it is useful to introduce a proposal on which they will be on the defensive. If agreed, the EMS central bank agreement would need redrafting.

21. The Bank have considered how an agreement on these lines would apply in a variety of possible scenarios, including the possibility of sterling coming under downward pressure, and Annex 3 explores four different cases.

Conclusion

22. We can discuss the issues at your meeting next week. On procedure, we will need to consider :

- whether you are happy for the initial discussions to be carried out between central banks. (We do not really have any choice about whether or not the Italians participate, but on the whole we think their presence will be helpful).

- whether the Bank should table any proposals in advance of the meeting on 8 May.

- how to ensure that the Central Bank conclusions are put to G4 (Europe) Finance Ministers for agreement.

- how the subsequent G7 discussion should be handled.

23. On issue of substance, I suggest we need to discuss the general question about what our line should be on the definition of intervention for the purposes of these agreements

(paragraphs 16-19 above); and then go through the attached 7 points, and consider whether there are any others we should seek to introduce, or be ready to respond to.

DLCP

D L C PERETZ

cc: Governor
Deputy Governor
Mr George
Mr Hoehnis
Mr Foot
} B/England

SECRET

ANNEX 1

COMMENTARY ON THREE POINTS IN POHL LETTER OF 20 APRIL

First Point

We can agree that all European intervention against the dollar should "count" in a G7 context not just intervention in deutschemarks. We and the Germans have a common interest here. (If the wording is intended to mean that our $/£ intervention should not count because it was not done to support the dollar, then that is unacceptable).

2. It is not obvious what the following three sentences mean. We could probably agree to a 50 : 50 split between dollar intervention by the Bundesbank and all other European countries. Our share would then be quite small. We would want to retain freedom to decide whether it should be met by £/dollar intervention or DM/dollar intervention.

3. But the preceding two sentences seem to suggest, rather, that the division should simply depend on where the pressures are. If dollars are being sold for sterling it would be up to the Bank of England to buy dollars. That proposition could give us a much larger "share". We would not accept that. It is the cross rate against the DM that we are concerned about, and when we are intervening against that it is natural, and probably more effective, to do so in DM - whether the pressure on sterling is coming from sales of US dollars or otherwise.

ANNEX 1

Second Point

4. We might be able to accept the constraint in the second sentence - that central banks should not intervene in different directions "simultaneously". It may be best not to try to define precisely what "simultaneously" means.

5. The next three sentences appear to refer to dollar intervention against the DM or ecu, not intervention in national currencies. If this applies to market intervention, and not quiet diversification of the reserves, we might accept that we should not buy or sell dollars for DM without agreement from the Bundesbank. We would certainly not accept the same constraint on dealing in ecus. Why should we ask the Bundesbank about this rather than any other European central bank? There are no grounds for interpreting the EMS rules as requiring such consultation for ecus.

6. If despite what it says the sentence is intended to apply to own currency intervention by other European countries then the proposition causes us great difficulty. But it would also, for member countries, cut across ERM rules, which require other central banks to buy or sell DM when at the ERM margin against the DM.

7. We would like to see the EMS rule about cross holdings of currencies changed and relaxed. So would the French. In our view the rules have no bearing at all on holdings and purchases of sales of ecus.

Third Point

8. This may be intended to refer only to currencies within the ERM. The second sentence would actually contradict the letter of the ERM agreement, if a member had to buy or sell DM to prevent its currency going through the margin. Had we been members of the ERM in the last year there could easily have been occasions when both the Bundesbank and Bank of England would have had to sell sterling and buy DM to prevent a breach of the margins, irrespective of the position of the DM against the dollar at the time.

SECRET

Annex 2

UNDERSTANDINGS ON INTERVENTION **SECRET**

G 6

1. BASIC STRATEGY

To promote greater exchange rate stability by seeking to maintain exchange rates around current levels for the time being. These understandings will be reviewed in a normal way at a meeting in early april in conjunction with the spring meeting of the Interim Committee. There would be no bias toward dollar purchases as opposed to dollar sales.

2. TACTICS

Participants will seek to avoid predictability in intervention activity. Intervention may occur when there is large and/or volatile movement of exchange rates, and would be expected as exchange rates deviate substantially from current levels. Levels and amounts of intervention would be discussed among participants on a day-to-day basis in light of market conditions.

3. SCALE

Total net intervention (dollar market only) would be maximum of $12 billion during the period until the next meeting. Daily amounts would vary, but would not ordinarily exceed $300 million for either the United States, Europe and Japan.

4. CURRENCY

As a general rule : for the United States, yen/$, DM/$; for others (except EMS interventions), dollars against national currency.

5. PROPORTIONATE SHARES

United States, Europe and Japan would have approximately equal shares over time. (Dollar sales or purchases offset through other EMS transactions would not be included in totals.) Participants would endeavour not to intervene in directions inconsistent with the basic purpose of the exercise without prior consultation.

6. VISIBILITY

Operations will be conducted without attempting to disguise them, and on occasion with the intention that they become known in the market. However, no official confirmation of intervention except in accordance with established subsequent publication policies.

7. LOCUS OF OPERATIONS

Presumption that each participant would have responsability for its own market and would not be expected to intervene in another market, although it could do so after consultation.

8. COORDINATION

Central banks continue to maintain close contacts on intervention operations pursuant to established channels. Finance ministries intensify their bilateral channels of communication.

ANNEX 2

KARL OTTO PÖHL
PRÄSIDENT DER DEUTSCHEN BUNDESBANK

6 FRANKFURT AM MAIN
WILHELM-EPSTEIN-STRASSE 14
TELEFON 1581

April 20, 1988

Mr. Robert Leigh-Pemberton
Governor
Bank of England
Threadneedlestreet

London EC2R 8AH

Dear Robin:

During the talks which led to the Louvre accord in February 1987, the US Treasury submitted the draft of an (unpublished) Understanding on Intervention, which was primarily intended to bring about a coordination of foreign exchange market interventions by the United States, Japan and Germany. In our opinion, this paper did not take adequate account of European conditions.

Although the understanding of December 1987 contains some improvements, which were introduced at the request of the Deutsche Bundesbank, from our point of view it is not completely satisfactory, either.

During the talks in Washington, D.C., in April 1988 I therefore submitted the draft of an "Understanding of the G-7 Countries on Intervention and Consultation", which I think takes better account of European interests.

I handed you a copy of the Deutsche Bundesbank's draft in Washington.

Our intentions focus primarily on three points:

Firstly: We should like to ensure that in the European central banks' interventions to stabilise the dollar rate, which in principle should correspond in all to one-third of the intervention amount of all G-7 countries, all

European currencies, and not only the Deutsche Mark, are counted as currencies of intervention. If, for example, excessive amounts of US dollars are offered, the first priority should be to take the dollars offered out of the market against the respective national currency. The same applies to behaviour in the event of dollar sales.

The Deutsche Bundesbank is prepared to assume one-half of the total dollar interventions to be undertaken by the European countries and to coordinate all European interventions vis-à-vis third currencies.

Secondly: We are interested in ensuring the consistency of interventions. Thus, care should be taken to prevent currency sold by a central bank at times of dollar purchases from being bought simultaneously by another central bank.

Dollar interventions by other European countries against Deutsche Mark or - owing to the high Deutsche Mark share - against ECUs should remain exceptional and should be possible only after previous consultation with the Deutsche Bundesbank, in line with the rules of the EMS. Interventions of this kind only constitute an exchange between different components of the exchange reserves. The exchange rate risks, however, should be distributed as evenly as possible.

Oh, no!

What does this mean?

Thirdly: To prevent tensions from developing in the EMS and so as not to jeopardise cohesion in the EMS, we suggest, firstly, that no European country should be urged to undertake dollar interventions if interventions of this kind would result in undesirable exchange rate shifts in the EMS. Secondly, without prejudice to the existing agreement on the prior consent of the issuing central bank to the use of its currency as an intervention

So we get to emphasize without [illegible]

currency, the EMS countries should refrain from Deutsche Mark interventions if interventions of this kind would adversely affect the Deutsche Mark/dollar rate and thus exert pressure on the EMS as a whole.

To discuss the questions raised in this letter in more detail, I would suggest that our representatives - on our part, Dr. Leonhard Gleske - should meet at the Deutsche Bundesbank for strictly confidential talks. Our representatives should arrange the date for these talks by telephone. If you do not object, I would like to include a representative from Banca d'Italia.

I regard such a meeting as a first step towards elaborating a European position vis-à-vis third currencies; this position would have to be coordinated with other European central banks at a later date.

I am looking forward to your reply at your earliest convenience.

Bert Kaufmann

Karl Otto

CONFIDENTIAL

FROM: SIR T BURNS
DATE: 27 APRIL 1988

MR PERETZ

cc PPS
Sir P Middleton
Sir G Littler
Mr Scholar
Mr Evans
Mr Odling-Smee
Mr Grice

EXCHANGE RATE BEHAVIOUR AND INTERVENTION

The Chancellor has asked me to reconsider the conclusions of the Jurgenson report.

2. The conventional wisdom suggests that sterilised intervention has no effect on inflation but also no effect on the exchange rate. How far do we go along with this? The experience of 1987 suggests that it is possible for several months to contain an exchange rate appreciation by sterilised intervention.

3. One possibility is that the Jurgenson approach reflects a simple monetary approach to exchange rate determination; essentially exchange rate movements are driven by monetary policy; a tightening of monetary policy strengthens the exchange rate, and vice versa.

4. But suppose we develop the line in the exchange rate paper I prepared for the PM's meeting. Exchange rates have a large unexplained component. They are driven for long periods by expectations. Bubbles emerge because of extrapolative expectations which are only punctured when the exchange rate has moved a long way and when the full effects of the lags have been felt on the trade balance. In these circumstances Governments may be able to influence the exchange rate by affecting expectations. One way of influencing expectations might be through intervention. Another might be through a willingness to adjust interest rates.

5. Maybe the combination of intervention and interest rate changes will have the maximum effect. If the authorities have made known their preference for the exchange rate and have shown a

willingness to adjust interest rates if necessary, then sterilised intervention might have an effect because there is an implicit threat of interest rate action to follow. Obviously this will only work if the interest rate threat is credible: ie there is scope to reduce interest rates.

6. I suppose another (monetary) way of putting this is that sterilised intervention might have an influence so long as there is an implicit threat of unsterilised intervention.

7. We might also consider whether there is any asymmetry between intervening to prevent appreciation and depreciation. In the first case we are supplying our own currency which in principle is infinite. In the second we run out of reserves eventually. The difference may be one of timing. Even in the first case there are limits to the amount of intervention that can be sterilised (in the form of funding) and a limit to the foreign exchange losses we are prepared to risk. Once the markets think those limits are approaching they will push all the harder. But it does suggest there may be more scope in that direction.

8. I would be grateful if Mr Grice could review the Jurgenson report and offer his own opinion as to whether experience since 1983 suggests the need for a different approach. I would then like to have a discussion before we offer any advice to the Chancellor.

9. My own view - on a recent cursory examination - is that the Jurgenson approach is quite narrow and maybe a little dated. The experience of the 1980s - particularly with regard to the dollar - and the large fluctuations of exchange rates away from longer-term equilibrium has changed my view of the underlying mechanisms at work and the appropriate policy response.

T BURNS

SECRET

For Thursday's meeting Peter.

From : D L C Peretz
Date : 29 April 1988

CHANCELLOR

cc EST
Sir P Middleton
Sir T Burns
Sir G Littler
Mr Scholar
Mr Grice
Miss O'Mara o/r
Ms Goodman

INTERVENTION : POHL LETTER OF 20 APRIL

We have discussed with the Bank what our response should be to this German initiative, and how we should seek to handle the discussion. This note incorporates Bank comments. You are holding a meeting to discuss it on 5 May.

Procedure

2. The Governor has provisionally agreed that the initial discussion should be on Sunday 8 May in Basle, between Gleske, and his UK, French and Italian opposite numbers. There would then be a subsequent discussion between the four Governors in the margins of the Basle meetings on 9 and 10 May. The Bank of England would make it clear throughout that they act as the Treasury's agent on intervention, and that any conclusion or agreement would be ad referendum to you. Sir G Littler has spoken to Trichet who said that the French Tresor will want Larosiere to adopt the same position.

3. When and if a European position is agreed there will then presumably need to be a further discussion in the G7.

German proposals and objectives

4. Although we think we understand the Bundesbank's underlying concerns pretty well, Pohl's letter of 20 April is in fact not at all clear. The proposals in it seem rather confused. I am attaching (Annex 1 to this note) a commentary. I am also attaching at Annex 2, for ease of reference, the draft note that

SECRET

From : D L C Peretz
Date : 6 May 1988

MR ALLAN

cc PS/EST
Sir P Middleton
Sir T Burns
Sir G Littler
Mr Scholar
Mr R I G Allen
Miss O'Mara
Mr Cropper

Mr Loehnis - Bank of England

EUROPEAN UNDERSTANDINGS ON INTERVENTION

Sir G Littler and I have a few comments on the attachment to your minute of 5 May. I also have some comments from the Bank.

2. First, in case it is not clear, the idea is for Mr Loehnis and the Governor to use the points as a negotiating brief. They are all points we would like to establish, and/or could accept. They are not points we ourselves will necessarily want to table at the beginning of the discussion. Second, we think this applies in particular to point 5. Our key objective is to ensure that nothing is agreed that would prevent us interpreting the understanding in this way. Obviously it would be best if we can get the clause agreed explicitly. But the best way to protect our position, and this is something that can only be judged in the course of the negotiations, might be to leave it out - so long as it is understood that nothing else in the understandings prevent it.

3. If point 5 is not included, the distinction between periods of concerted intervention and others is not needed. As you say, it might actually serve our interest to have point 4 applying at all times (it would prevent others buying sterling when we were selling it, even at times when concerted intervention was not taking place), and point 6 logically applies at all times.

PERETZ → ACSA 6/5

4. The Bank would in any case like to do away with this distinction between periods of concerted intervention and other periods, even if point 5 is included (which we would like), by running points 4 and 5 together (which more less achieves the same effect). They think that if they get into a discussion of what things should be done differently during periods of concerted intervention and at other times it might raise a large number of other hares.

DLCP

D L C PERETZ

Sarah

Please make sure ya
know where this is filed.
If I ask for it, it will be
for "Keren's Book". Mom.

The Royal Institute of International Affairs

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Patron Her Majesty the Queen
Chairman Christopher Tugendhat
Director Admiral Sir James Eberle GCB

24 May 1988

Sir Goeffrey Littler
Second Permanent Secretary
HM Treasury
Treasury Chambers
Parliament Square
London SW1P 3RB

Dear Sir Goeffrey:

I take the liberty of sending you draft chapters of the monograph I am writing for the Royal Institute of International Affairs. The first five chapters are attached. The sixth and final chapter, dealing with the relationship between exchange-rate management and policy coordination, will be ready shortly, and I will send you a copy as soon as it is done.

I would much appreciate your comments but will need them soon if I am to make good use of them. I must revise the paper early in July, before returning to Princeton.

Best regards,

Peter B. Kenen

Enclosure

Per Terry
a file - S.T.
Chapter ?

Mr Allen,
Terry promised the Chancellor a copy of this for the weekend.

Terry
Some interesting stuff - especially Chapter 5. I should like to have it back please.

5:3/11/38

DRAFT
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author's permission

MANAGING EXCHANGE RATES

Peter B. Kenen

Revised Draft
April 19, 1988

1 INTRODUCTION

Ideas lead lives of their own, and some are almost immortal. They may have little influence for long periods, but events can revive them abruptly. When that happens, however, they wear old-fashioned clothing and speak in quaint phrases. They need to be brought up to date. This monograph tries to perform that task for an idea that has been revived rather suddenly--the idea that governments should manage exchange rates.

For twenty-five years following World War II, exchange-rate arrangements were governed by the Bretton Woods System. The rules of the system were laid down in the Articles of Agreement of the International Monetary Fund (IMF). Its actual functioning reflected the dominant role of the United States in the world economy and the even more dominant role of the U.S. dollar. Under the Bretton Woods System, exchange rates were pegged. They could be changed from time to time, devalued or revalued, to compensate for fundamental changes in the economic situation. For the most part, however, they were confined to very narrow bands. Governments intervened on foreign-exchange markets to keep rates within those bands, while taking other measures, including monetary and fiscal measures, to remove or reduce the market pressures that threatened to drive rates beyond their bands.

At the end of the 1960s, however, the United States faced an intractable conflict between its domestic economic objectives and its international obligations, and its attempt to resolve the conflict by changing its exchange rate led to the breakdown of

the Bretton Woods System. Early in 1973, the major industrial countries moved from pegged to floating exchange rates.

At first, the switch was expected to be temporary. A Committee on Reform of the International Monetary System, commonly called the Committee of Twenty, was appointed to produce a new pegged-rate system more flexible and symmetrical than the Bretton Woods System--one that would give the United States more freedom to change it own exchange rate but less freedom to exploit what Charles de Gaulle had called the "exorbitant privilege" of the dollar.

In the interim, however, governments had persuaded themselves that floating was better than pegging and that it was impossible in any case to return to pegged exchange rates under conditions prevailing in the mid-1970s. They were encouraged in this view by the majority of academic economists who had come to favor floating rates long before the switch in 1973. And the next generation of officials, believing that markets are wiser than governments, was even more comfortable with floating rates. They were prepared to blame their own policies, or those of other governments, when exchange rates moved in ways that were not to their liking.

Governments did not refrain completely from trying to influence exchange rates. They voiced views about "appropriate" rates to influence the markets' views, and they intervened from time to time to resist exchange-rate changes. In 1977, for example, Michael Blumenthal, U.S. Secretary of the Treasury, said that he would welcome an appreciation of certain other currencies against the dollar, and the dollar began to depreciate. In 1978, after the dollar had fallen sharply for more than a year, it was

stabilized briefly by large-scale intervention. In 1979, moreover, members of the European Community established the European Monetary System (EMS) which pegged exchange rates connecting their own currencies and provided extensive credit facilities for financing the intervention needed to defend those rates.

No attempt was made, however, to stabilize the key exchange rates connecting the dollar, yen, and mark, and governments declared repeatedly that they should not do so. It would be wrong in principle for them to second-guess the markets' views and futile in practice to pit their own resources against the vast amounts of private capital that might be bet against them. They watched with remarkable detachment the appreciation of the dollar that began in 1980 and went on for four more years, raising its average value by more than 50 percent in terms of other currencies. Some U.S. officials actually took pride in the appreciation, despite the domestic dislocation it was causing and the huge trade deficit to which it was contributing. They said that markets were showing their confidence in the policies of the Reagan administration.

But a new view began to emerge in 1985, and a new activism followed. In September 1985, the five key-currency countries (France, West Germany, Japan, the United Kingdom, and the United States), known as the G-5, chided foreign-exchange markets for failing to take full account of changes in national policies and other "fundamentals" affecting exchange rates and called on markets to bring the dollar down and thus bring it into line with the fundamentals. They warned that they would intervene when and if that would be helpful.

That declaration, the Plaza Communiqué, was followed in February 1987 by the Louvre Accord, in which the governments went farther. In 1985, they had agreed on the "wrongness" of current exchange rates, which was not difficult in light of the large U.S. trade deficit and resulting protectionist pressures. In 1987, they agreed on the "rightness" of current exchange rates--that the dollar had fallen far enough--and said that they would stabilize them temporarily.*

Exchange rates were quite stable in the months that followed, due largely to official intervention, and some officials began to contemplate more formal, long-lasting arrangements. They fell silent in October, however, when the dollar weakened again in the wake of the stock-market crash, and they have been more cautious since. This more cautious mood, moreover, was not a mere swing of the pendulum, a reaction to the disappointments of 1987. Officials began to remember the questions that plagued them years ago--questions far harder than those they must confront when taking ad hoc measures to drive the dollar down or stabilize it temporarily.

It is not hard to promise that exchange rates will be stabilized until further notice. It is far harder to decide when to give that notice--how and when to realign the structure of exchange rates. It is not hard to plan a single act of intervention aimed at changing expectations in the foreign-exchange market. It is far harder to design long-lasting rules for exchange-rate man-

---

*The Louvre Accord was to have been issued by the G-5 plus Canada and Italy, known as the G-7, but Italy objected to endorsing a draft prepared in advance by the G-5. Subsequent statements, however, have been issued by the G-7, and that term is used hereafter to identify the group of governments that are most heavily involved in exchange-rate management and policy coordination.

agement, which necessarily translate into rules and arrangements for creating and holding reserves and have far-reaching implications for monetary policies. They raise the same questions about symmetry and leadership that cropped up years ago in the Committee of Twenty. They turn quickly and concretely into questions and concerns about U.S. policies and the U.S. dollar.

This monograph deals with some of those questions, brought up to date by recent research and experience. It looks with particular care at the workings and achievements of the EMS and at the efforts to manage exchange rates under the Plaza and Louvre agreements.

Answers to some of those questions will be shown to depend on the way that we interpret controversial evidence about the functioning of foreign-exchange markets. There is disagreement, for example, about the manner in which markets form their expectations, a matter decisive for judging the governments' ability to influence those expectations by changing or promising to change their policies. There is disagreement about the extent of substitutability among assets denominated in different currencies, a matter decisive for judging the effectiveness of official intervention and the need to coordinate monetary policies in aid of exchange-rate management. Answers to other important questions will be shown to depend on the policy objectives of governments and on highly subjective judgments about policy-making processes in the United States and other countries--whether there is hope of making them more flexible and less parochial.

I will not conceal my personal views about these matters, even those that are mainly political. They are crucial to my main conclusion. Exchange rates should be managed, not left completely

to market forces, but informal arrangements exemplified by the Plaza and Louvre agreements may not suffice. To manage exchange rates effectively, it may be necessary to manage them systematically, not episodically, and thus to devise a pegged-rate system resembling the EMS.

Those who have studied the EMS closely point to special circumstances that have helped it to function effectively--its intimate connection with the European Community, the deep concern with inflation that attracted European governments to the discipline of a pegged-rate system, and the central role of Germany, a role similar in prominence but different in substance from the role of the United States in the Bretton Woods System. These special circumstances necessarily limit the applicability of lessons learned from the EMS experience. They also warn of the need to confront the concern expressed frequently in Europe, that the United States cannot be trusted to discharge the obligations of economic leadership that would be thrust upon it by a more tightly managed system.

This monograph has five more chapters. Chapter 2 reviews in more detail the monetary history summarized above and explores the rationale for managing exchange rates. Chapter 3 looks at ways of managing exchange rates, including the methods actually used during the last forty years and some of those proposed but not yet tested.

Chapter 4 is addressed to the central question. Can exchange rates be managed by informal, confidential understandings among governments, or is it necessary to adopt more formal arrangements? The case for formal arrangements, based on firm and transparent commitments, derives from the need for governments to

maintain credibility in their dealings with the foreign-exchange market. Formal commitments are risky, because credibility is gravely damaged when governments back away from them. But imprecise commitments are risky too, because governments and markets can misinterpret them, with results that undermine the markets' confidence in the governments' pronouncements.

Chapters 5 and 6 examine issues that crop up when we start to contemplate a tightly managed system. What should be the roles of intervention and reserves in exchange-rate management? What form should reserves take? Are there ways to reduce the dependence of the monetary system on the U.S. dollar? How closely must governments coordinate their policies under a tightly managed system? Is it necessary to coordinate fiscal policies as well as monetary policies? And Chapter 6 concludes by posing one more question. What are the costs and benefits of a tightly managed system and how might they be distributed? That is, of course, the question on which the issue will be decided.

Revised Draft
April 22, 1988

2 THE RATIONALE FOR MANAGING EXCHANGE RATES

Introduction

Prices convey information. At one level, they define the terms on which goods, services, and assets can be traded or, more generally, the terms on which purchasing power--income or wealth --can be used to buy them. At another level, they embody the information that households, firms, and governments have used in making decisions. The information is not always up to date, because most prices are revised periodically, not altered continuously. It is not always accurate, because the decisions reflected by prices are based on imperfect information, including best guesses about the future. And it is not always complete, because those who have the greatest influence on markets are motivated by objectives and concerns that focus on particular bits of information, such as average opinion today about average opinion tomorrow.[1]

Economists tend to idealize the information embodied in prices. Much current economic theory is based on the rational expectations hypothesis, which asserts that decision makers use all the available information and process it accurately, and on the equally unrealistic supposition that prices adjust instantaneously and thus reflect information promptly and completely. Even those economists who reject these suppositions have a great deal of faith in the quality of the information conveyed by prices. If it were not knowledge but mere noise, economics would

be empty. Therefore, economists are hostile to schemes and policies that would fix or manage prices.

Nevertheless, a number of economists have begun to say that exchange rates should be managed, even though the exchange rate is the most important single price for any economy. Being the price of one national currency in terms of another, it is the link between all prices quoted in that currency and their counterparts in other countries' currencies--not only the prices of goods and services but also those of real and financial assets.

Why should economists favor the management of this crucial price when they deplore the management of most other prices?

Some would answer along lines reflecting my warning about the quality of information conveyed by prices in general. When exchange rates are determined by market forces, they necessarily reflect the sorts of information that market participants deem to be important. This limits their usefulness to those decision makers who must translate other prices from currency to currency, buyers of goods, services, and assets and those who are charged with making long-term business decisions--what to produce and where to produce it. On this view, exchange rates are too important to be left to market forces.

Others would answer by invoking a different proposition. Because an exchange rate is the price of one money in terms of another, changes in money supplies are bound to affect exchange rates. Conversely, a commitment to manage exchange rates is an implicit constraint on the management of money, and those who believe that the managers of money must themselves be managed--subjected to some sort of discipline or rule--regard the fixing or pegging of exchange rates as the most effective rule. They

readily concede that this rule may not be sufficient. If the managers of money in every country conspired to behave irresponsibly, they could honor the rule but flout its purpose. Therefore, they want something more, a limitation on global monetary growth, which is the core of the case for the classical gold standard and for the "gold standard without gold" proposed by McKinnon (1984). But that additional limitation can function effectively only in tandem with an exchange-rate rule.

Both of these answers embody complicated judgments about economics and politics--the ways in which markets and governments behave--and judgments of this sort are unavoidable. Too often, however, they are badly biased. Economists compare the actual functioning of the current exchange-rate regime, which is strongly affected by uncertainties and rigidities in the world economy and by imperfect policies, with the hypothetical functioning of some other regime imbedded in a simple theoretical model.

Many made this error twenty years ago, when they came to favor floating rates. They compared the actual behavior of the Bretton Woods System, based on pegged exchange rates, with an idealized floating-rate system. That particular comparison was very badly flawed, because it was based on theoretical models that made two predictions. First, floating exchange rates would tend to move slowly and smoothly, because their behavior depended mainly on current-account flows--on purchases of currencies to pay for goods and services--and the basic determinants of those flows tend to change gradually. Second, floating rates would reduce economic interdependence, permitting each government to choose its own policies and insulating each national economy from other countries' policies. In that framework, then, it was not

necessary to assume that governments would follow sensible policies under a floating-rate regime. The attractiveness of floating rates, compared with pegged rates, was actually enhanced by conceding that governments are fallible and apt to pursue parochial objectives.

We know now that those models were pitifully inadequate.[2] The short-run behavior of a floating exchange rate is not determined by current-account flows. It is determined mainly by capital-account flows which reflect the highly volatile views of various asset holders. Exchange rates can change hugely from day to day and week to week, and there can be large cumulative movements lasting for three or four years. Exchange rates behave like other asset prices, changing more frequently and rapidly than goods prices and responding to different sorts of information. Therefore, a change in a nominal exchange rate, the price of one currency in terms of another, can alter the real exchange rate, the prices of one country's goods in terms of other countries' goods. It can thus influence the level, location, and composition of economic activity. For this same reason, moreover, floating exchange rates cannot reduce economic interdependence. They can only alter the form of interdependence. Indeed, they produce a peculiarly painful form of interdependence, because monetary and fiscal policies, as well as nonpolicy shocks, are made to impinge directly on the real economy by way of the real exchange rate.

Although we have learned a lot about exchange-rate behavior and economic interdependence under floating exchange rates, we would make another badly biased comparison by failing to recall the lessons we learned earlier about pegged exchange rates. We are sadly familiar with the turbulent history of the 1970s and

1980s, when floating rates were buffeted by large shocks and shifts in policies. We tend to idealize the early years of the Bretton Woods System as a golden age of rapid growth and price stability in which balance-of-payments problems were solved easily and inexpensively.[3] According to this highly stylized view, the pegged-rate system functioned well until the United States made two mistakes--getting into the Vietnam war and failing to finance it by raising taxes. We forget the huge swing in commodity prices that surrounded the outbreak of the Korean War, the periodic balance-of-payments crises in Britain and France, even in Japan, or the first round of balance-of-payments problems experienced by the United States in the early 1960s, before the Vietnam war.

We tend also to forget the two complaints made against the workings of the Bretton Woods System. First, the central role of the U.S. dollar made the performance of the world economy heavily dependent on U.S. policies but shielded those policies from external pressures. Furthermore, reliance on the dollar as a reserve asset threatened the stability of the system; an increase in the quantity of dollar reserves would erode the holders' confidence in their quality and undermine the system eventually, but a halt to the creation of dollar reserves would cause a shortage of reserves and a competitive scramble for them.[4] Second, the exchange-rate regime became too rigid. Governments defended their exchange rates tenaciously, so that changes in rates were too late and too large.

The choice between floating and pegged rates necessarily involves a comparison between the imperfect decision-making powers of markets and governments. Which of them can be expected to man-

age exchange rates in the more sensible, timely way, holding them stable when changes are not needed but changing them promptly when changes are required? When talking about management by governments, moreover, we must ask another question. How best can governments resolve disagreements concerning the need to change exchange rates?

Highlights in the History of Exchange-Rate Management

The exchange rate is nearly unique among economic variables. It does not belong to any single country but is shared between two countries. When we know the price of the mark expressed in yen, we know the price of the yen expressed in marks. And this simple bit of arithmetic leads to another. In a world comprising N independent countries, there are only N-1 independent exchange rates. It is therefore impossible for one government to opt for a floating rate if all other governments opt for pegged rates, and it is likewise impossible for all governments to pursue independent exchange-rate targets.[5] International monetary history illustrates the several ways in which this problem can be handled.

Awareness of the problem and of its earlier manifestations heavily influenced the authors of the Bretton Woods Agreement. Failure to confront it in the 1920s had produced an unsustainable pattern of exchange rates:

> An exchange rate by definition concerns more currencies than one. Yet exchange stabilization was carried out as an act of national sovereignty in one country after another with little or no regard to cost and price levels. This was so even where help was received from financial centres abroad. Stabilization of a currency was conceived in terms of gold rather than of other currencies . ...
>
> The two most familiar but by no means the only sources of disequilibrium arose from the successive stabilization of the pound sterling and the French franc early in 1925 and

> late in 1926 respectively, the one at too high and the other at too low a level in relation to domestic costs and prices. The piecemeal and haphazard manner of international monetary reconstruction sowed the seeds of subsequent disintegration (League of Nations, 1944, pp. 116-17).

Therefore, the authors of the Bretton Woods Agreement sought to introduce collective supervision of exchange-rate policies. Each member of the International Monetary Fund was required to propose a par value for its currency in terms of gold, to keep the exchange rate for its currency within 1 percent of the parity corresponding to that par value, and to obtain IMF approval for its initial par value. Thereafter, a government could change its par value only to correct a "fundamental disequilibrium" and only with the Fund's approval.[6]

As the value of the U.S. dollar was fixed in terms of gold, the fixing of par values in terms of gold automatically implied fixed parities in terms of the dollar. To keep their exchange rates close to those fixed parities, governments bought and sold dollars against their own national currencies. The dollar became the principal intervention currency, which helped to make it the principal reserve currency. Because these arrangements stabilized the dollar in terms of other currencies, the United States did not have to intervene on foreign-exchange markets, but it was assigned another task under the Bretton Woods Agreement. It was supposed to buy and sell gold, so that other governments acquiring dollars from the foreign-exchange market would not have to hold them but could convert them into gold.

The system was thus symmetrical in principle, although it proved to be less symmetrical in practice. Many governments chose to accumulate dollars instead of buying gold. They did so voluntarily for many years but found themselves obliged to do so later

on, when U.S. gold holdings were no longer large enough for the United States to honor its side of the bargain. Furthermore, the collective supervision of exchange-rate policies did not work as planned. Governments sought approval from the IMF before changing their exchange rates, but they obtained it routinely. In fact, they rarely gave the Fund time to reflect and object. Disagreements about exchange-rate matters were avoided only because the United States had no need to pursue an exchange-rate policy. It functioned as a passive Nth country.

Histories of the international monetary system stress the dominant role of the dollar. That dominance was based at first on the uniquely strong economic position of the United States, reflected in the so-called dollar shortage, which relieved it of concern about its own exchange rate. It could afford to be passive. Its passivity did not imply indifference to the exchange-rate policies of other governments. In 1949, for example, the United States actively urged the devaluation of sterling. But its views reflected its judgments about the way that other governments should manage their exchange rates, not about the implications for the dollar.

The situation began to change in the 1960s, however, when the United States started to run balance-of-payments deficits, and its views about the policies of other governments came to be colored by its own concerns. In 1961, for example, Germany and the Netherlands revalued their currencies by 5 percent in response to pressures from Washington. In 1964, the United States objected strongly to a devaluation of the pound, fearing that it would deflect speculative pressures onto the weak dollar; it took the lead in organizing financial support for the pound, and the

devaluation was postponed until 1967. Finally, in 1968, Washington sided with France in a dispute with Germany. Paris sought a revaluation of the mark to reduce the French balance-of-payments deficit, but Bonn favored a devaluation of the franc. Washington backed Paris because a revaluation of the mark would be a partial devaluation of the dollar and would help the United States with its own balance-of-payments problem, whereas a devaluation of the franc would be a partial revaluation of the dollar and would exacerbate the U.S. problem.[7]

In 1970, moreover, the U.S. balance of payments deteriorated sharply, and the United States had to adopt an active exchange-rate policy--to engineer a devaluation of the dollar in terms of other currencies. It could not do so easily, because of the institutional arrangements that had developed under the Bretton Woods System. Exchange rates for the dollar were maintained by other governments, whose interventions kept their dollar rates close to their parities, and a change in the dollar price of gold would not do the trick, because other governments could nullify its practical effect by changing the par values of their currencies to keep their dollar rates unchanged.

The United States had to disrupt those arrangements in order to achieve its new objective, and that is what happened in August 1971, when President Nixon suspended gold sales by the United States, imposed a 10 percent surcharge on imports, and left the rest to John Connally, his Secretary of the Treasury. Exchange-rate policies clashed decisively, and the conflict had to be resolved by negotiation. The process took four months and culminated in the Smithsonian Agreement, the only instance of a global exchange-rate realignment.[8]

In an odd sort of way, governments had come full circle, from collective management through the IMF, agreed at Bretton Woods but never implemented, to collective management directly by governments. But this regime was not to last. The Smithsonian Agreement began to unravel. The pound was allowed to float downward in June 1972 and the Swiss franc to float upward in January 1973, and everything else came unstuck one month later, when the United States tried to engineer a second devaluation of the dollar. The Japanese authorities responded immediately by allowing the yen to float upward; the German authorities followed two weeks later in the face of massive capital inflows, and they were joined by other European countries.

We cannot know what governments had in mind for the long run --how many officials truly favored a shift to floating exchange rates--and their recollections are not very helpful. Most of us have perfect foresight after the event. There had been an important change in the United States. George Shultz had replaced John Connally as Secretary of the Treasury, and Shultz favored floating rates. Yet governments continued with the task that they had started shortly before the float began, when they had established the Committee of Twenty to remodel the Bretton Woods System.[9]

Whenever the next attempt is made to reform the monetary system, participants should look very closely at that last one. There were tactical mistakes that eroded political support for the work of the Committee. There was too much concern with methods and mechanics and too little concern with the need to strike a basic bargain--to reconcile the very different meanings that governments attached to their common objective, designing a more symmetrical monetary system.[10] For the major European partici-

pants, this meant reducing the role of the dollar in order to reduce their vulnerability to U.S. policies and subject the United States to the same balance-of-payments discipline that other countries faced. They would have the same objective today. For the United States, symmetry meant more freedom to alter its exchange rate, the option that had always been available to other countries when the balance-of-payments constraint became too onerous. It could not accept a new regime that might force it to adopt disruptive tactics, as it did in August 1971. And it would likewise have the same objective today.

The Committee of Twenty continued its work for more than a year after the collapse of the Smithsonian Agreement. With the advent of the first oil crisis, however, governments came to believe that it was impossible to peg exchange rates and turned to the ratification of the new regime. At the Rambouillet Summit in November 1975, an artful agreement between France and the United States endorsed a "stable system" of exchange rates, rather than exchange-rate stability itself. Two months later, the IMF Interim Committee agreed to a comprehensive revision of the Fund's Articles of Agreement. The same artful language appeared in the new version of Article IV, defining the obligations of governments with regard to exchange rates. Its principal provisions are reproduced in Figure 2.1. The members' obligation to propose par values to the Fund was replaced by the requirement in Section 2(a) that members keep the Fund informed about their exchange-rate arrangements. The need for Fund approval of changes in par values was replaced by the requirement in Section 3(b) that the Fund "exercise firm surveillance" over its members' exchange-rate policies.

Figure 2.1 The ratification of floating exchange rates

Article IV
Obligations Regarding Exchange Arrangements

Section 1. General obligations of members

Recognizing that the essential purpose of the international monetary system is to provide a framework that facilitates the exchange of goods, services, and capital ... and that a principal objective is the continuing development of the orderly underlying conditions that are necessary for financial and economic stability, each member undertakes to collaborate with the Fund and other members to assure orderly exchange arrangements and to promote a stable system of exchange rates. In particular, each member shall: (i) endeavor to direct its economic and financial policies toward the objective of fostering orderly economic growth with reasonable price stability, with due regard for circumstances; (ii) seek to promote stability by fostering orderly underlying economic and financial conditions and a monetary system that does not tend to produce erratic disruptions; (iii) avoid manipulating exchange rates or the international monetary system in order to prevent effective balance of payments adjustment or to gain an unfair competitive advantage over other members ...

Section 2. General exchange arrangements

(a) Each member shall notify the Fund ... of the exchange arrangements it intends to apply in fulfillment of its obligations under Section 1 of this Article, and shall notify the Fund promptly of any changes in its exchange arrangements.

(b) Under an international monetary system of the kind prevailing on January 1, 1976, exchange arrangements may include (i) the maintenance by a member of a value for its currency in terms of the special drawing right or another denominator, other than gold, selected by the member, or (ii) cooperative arrangements by which members maintain the value of their currencies in relation to the value of the currency or currencies of other members, or (iii) other exchange arrangements of a member's choice. ...

Section 3. Surveillance over exchange arrangements

(a) The Fund shall oversee the international monetary system in order to ensure its effective operation, and shall oversee the compliance of each member with its obligations under Section 1 of this Article.

(b) In order to fulfill its functions under (a) above, the Fund shall exercise firm surveillance over the exchange rate policies of members, and shall adopt specific principles for the guidance of all members with respect to those policies. ...

There was a good deal of intervention during the early years of floating, and the IMF's Guidelines for Surveillance, adopted to implement Article IV, endorsed the use of intervention to combat "disorderly" conditions in foreign-exchange markets. Nevertheless, the Fund warned against sustained intervention or the use of trade and capital controls to "manipulate" exchange rates, and there was a discernable shift in official sentiment away from "dirty" to "clean" floating. The solution of the Nth country problem would be left to the foreign-exchange market.

In November 1978, the U.S., German, and Japanese authorities had intervened heavily to halt the depreciation of the dollar. In 1979 and 1980, the U.S. authorities had intervened on the other side of the market to slow down the subsequent appreciation, and the United States began to acquire sizeable foreign-exchange reserves. Soon after taking office, however, the Reagan administration halted all such acquisitions, saying that it would not need reserves because it would not intervene to influence exchange rates. And other conservative governments took similar if somewhat more guarded positions. At the Versailles Summit in 1982, the major governments established a working group to study the role of intervention, and the study was predictably critical of using intervention for exchange-rate management. Intervention could play a useful but limited role in certain circumstances, but mainly to draw the markets' attention to the implications of monetary policies. It could not and should not be used to resist market forces (Working Group, 1983).

The same view was expressed in a second, more comprehensive report on the monetary system commissioned by the Williamsburg summit in 1983. It worried about the volatility of floating rates

and warned that "large movements in real exchange rates may lead to patterns of international transactions that are unlikely to be sustainable," but it laid most of the blame for exchange-rate instability on "inadequate and inconsistent policies that have led to divergent economic performance" (Deputies, 1985, paras. 17, 20). In effect, officials endorsed the view then prevalent among economists that foreign-exchange markets absorb information efficiently and should not be blamed for the policies on which they are passing judgment. That would be shooting the messenger who brings embarrassing news (Frenkel, 1987).

A few short months later, however, governments took a different view. On September 22, 1985, in the Plaza Communiqué, they sent the messenger back to the market to say that the market was not doing its job:

> The Ministers and Governors agreed that exchange rates should play a role in adjusting external imbalances. In order to do this, exchange rates should better reflect fundamental economic conditions than has been the case. They believe that agreed policy actions must be implemented and reinforced to improve the fundamentals further, and that in view of the present and prospective changes in fundamentals, some further orderly appreciation of the main non-dollar currencies again the dollar is desirable. They stand ready to cooperate more closely to encourage this when to do so would be helpful.

And they took the next step in the Louvre Accord of February 22, 1987:

> The Ministers and Governors agreed that the substantial exchange rate changes since the Plaza Agreement will increasingly contribute to reducing external imbalances and have now brought their currencies within ranges broadly consistent with underlying economic fundamentals, given the policy commitments summarized [earlier] in this statement.
>
> Further substantial exchange-rate shifts among their currencies could damage growth and adjustment prospects in their countries.

> In current circumstances, therefore, they agreed to cooperate closely to foster stability of exchange rates around current levels.

And so full circle once again, from the Smithsonian to the Louvre and from respectful acceptance of the markets' views to a new attempt at collective management. The results are examined later in this paper.

The Arguments for Exchange-Rate Management

Economists like to believe that they influence policies. Those who favor floating rates would like to think that governments were listening in 1973. Those who favor managed rates would like to think that governments were listening in 1985. The truth is more complicated.

The move to floating rates in 1973 was a ragged retreat in the face of market forces. In the key case of Germany, for example, the authorities had to choose between two distasteful prospects. An appreciation of the Deutsche mark would repel inflationary pressures coming from abroad but would weaken the competitive position of German industry, while further intervention to support the dollar would raise the money supply and intensify domestic inflationary pressures. Their strong aversion to inflation led the Germans to abandon their exchange-rate target in order to defend their money-supply target, and they have made the same choice many times since.

The subsequent decision to ratify floating rates also reflected practical considerations--how hard it would be to choose and defend a new set of pegged exchange rates under conditions prevailing in the mid-1970s, when growth rates and inflation rates differed widely across countries. That decision, however,

was made somewhat easier by the economists' promise that governments would have more freedom to pursue independent policies, and the influence of free-market monetarism on academic and official thinking helps to explain the move toward freer floating in the early 1980s.

The recent revival of interest in exchange-rate management must likewise be explained by practical concerns rather than the influence of economic arguments.

The Plaza Communiqué of 1985, which sent the messenger back to the market, was inspired by concerns about protectionism in the United States. The strong dollar was stimulating U.S. imports and depressing exports, and the Reagan administration was far from certain that it could block the passage of flagrantly restrictive trade legislation. In the statements of national policy aims appended to the Plaza Communiqué, each government pledged itself to resist protectionism.

The more ambitious Louvre Accord of 1987 reflected urgent problems in Japan and Europe. The depreciation of the dollar in the wake of the Plaza Agreement was worrying Japanese industry and had already produced a bilateral agreement between Washington and Tokyo, using language similar to the wording of the Louvre Accord. In Europe, the falling dollar was seen to be producing serious tensions within the EMS, which tied the French franc and Italian lira to the rising Deutsche mark. Those tensions had already forced one realignment of EMS exchange rates in January 1987, and European governments wanted to avoid another. The Louvre Accord allayed these concerns by committing the United States to collaborate closely with the Japanese and Europeans in keeping the dollar from falling farther.

Nevertheless, the Louvre Accord and subsequent events have focused the attention of officials and economists on the basic arguments for exchange-rate management and the broader problems of policy coordination. The two main arguments for managing exchange rates were set out briefly at the start of this chapter. One is based on views about political behavior, the other based on views about market behavior.

The simplest form of the political argument is the assertion that governments cannot be trusted to pursue sensible or predictable policies. They must be bound by rules. When the argument is put that way, it is unappealing to politicians, who want to know how rules can help them rather than constrain them. For this same reason, incidentally, European advocates of pegged exchange rates damage their own case by dwelling on the need to constrain or discipline the United States--the argument for symmetry made by Europeans in the Committee of Twenty.[11]

When put somewhat differently, however, the political argument can be appealing even to politicians. A case can be made for tying one's own hands in order to purchase credibility--for adopting a strict rule to persuade the public (and other politicians) that an unpopular or painful policy will not be abandoned. Some central banks adopted money-supply rules for that pragmatic reason rather than great faith in the long-term economic benefit of fixing the growth rate for some monetary aggregate. Some European governments saw the same advantage in joining the EMS. By pegging their currencies to the Deutsche mark, they linked their monetary policies to those of the Bundesbank and thus borrowed some of its credibility as an implacable foe of inflation.[12]

This argument has limited validity, however, because self-imposed rules tend lose their force and thus their influence on credibility as soon as they come into conflict with other policy goals. The U.S. commitment to a fixed price for gold began to lose its force long before it was renounced in 1971; it did not prevent the United States from pursuing domestic policies that led eventually to an unmanageable balance-of-payments problem. It may be objected that the U.S. authorities succeeded for some time in relaxing the constraint imposed by the vestigial Bretton Woods version of the gold standard; they pressed other governments to accumulate dollars rather than convert them into gold. But that is precisely the point. The United States found ways to keep its promise about the gold price without honoring the purpose of that promise. Leaping from the 1960s to the 1980s, can anyone truly believe that the Reagan administration would have foresworn its idiosyncratic fiscal experiment in 1981 or reversed it quickly had it been committed to a pegged exchange rate or, for that matter, bound by the Balanced Budget Amendment it has endorsed so often? Recall how vehemently it denied any connection between the U.S. budget deficit and the behavior of the dollar.

The case for rules is even weaker when made in its appealing, pragmatic form. When a rule is adopted primarily to enhance the credibility of a particular policy, and this is transparently clear, the rule must start to lose its force as soon as the more basic policy goal begins to lose its urgency. The strength of the commitment to the EMS may be getting weaker in European countries that have started to question the cost of importing Germany's low growth rate along with its low inflation rate, which may in turn explain the sudden flurry of interest in establishing a European

central bank to carry Europe forward from a set of pegged exchange rates to a common currency.[13] A self-imposed constraint can be quite useful, but only for as long as it is seen to serve the policy maker's own purpose.

The economic argument for exchange-rate management is summed up by two statements early in this chapter. Those who "produce" exchange rates in the foreign-exchange market are differently motivated from those who "consume" them in the markets for goods, services, and long-term assets. Furthermore, exchange rates are very flexible, like other asset prices, while goods prices are sticky, so that nominal and real exchange rates move together.

A growing body of evidence supports the first assertion; inhabitants of the foreign-exchange market have been shown to behave myopically, even irrationally,[14] and this would be reason enough to challenge the conventional wisdom of the early 1980s, which held that markets are wiser than governments. But the second assertion is more important. If goods prices were perfectly flexible, there would be little cause to worry about exchange-rate arrangements. Goods markets would optimize relative prices instantaneously, including real exchange rates, even if they had to cope with nonsensical messages from the foreign-exchange market. Governments could then stabilize their money stocks and let the foreign-exchange market determine nominal exchange rates, or could peg exchange rates and let the market determine national money stocks. It is therefore the stickiness of goods prices that confers importance on the exchange-rate regime. When nominal exchange rates affect real exchange rates, they also affect economic activity--its level, location, and composition.

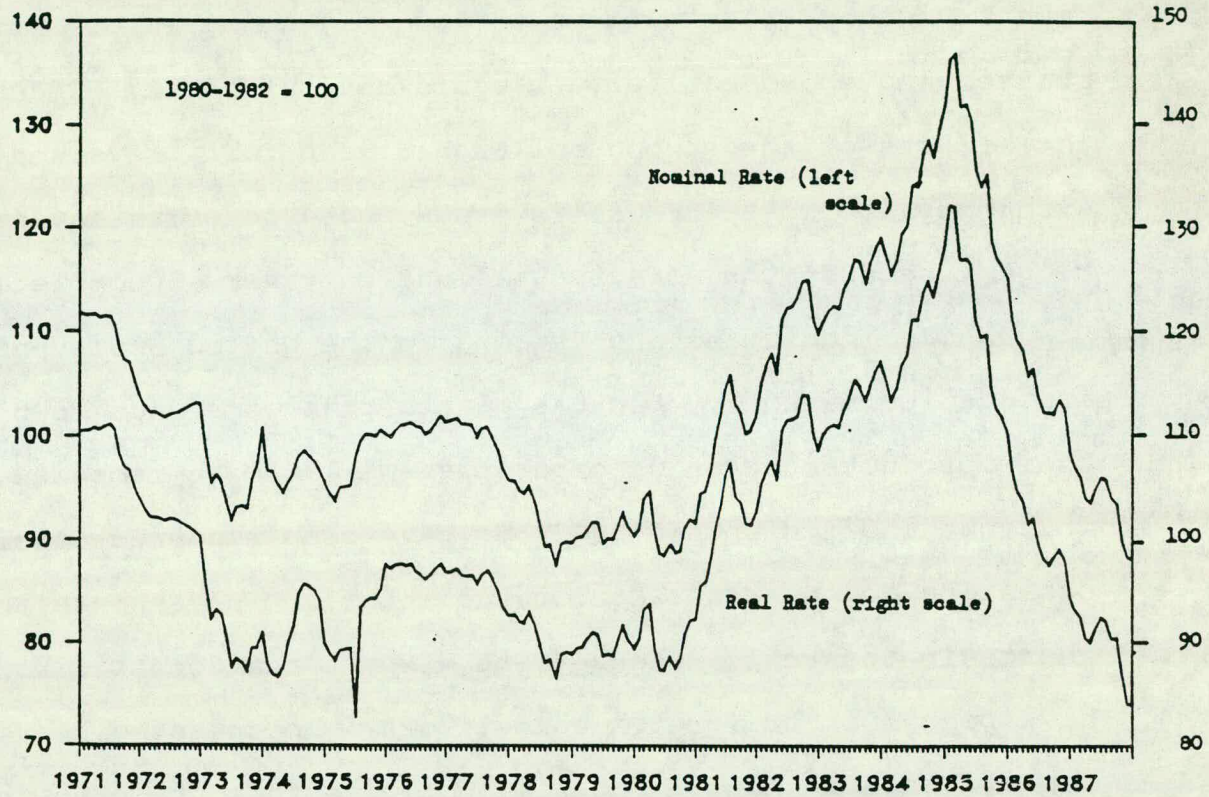
The strength of the connection between nominal and real exchange rates is shown clearly in Figure 2.2, which draws attention sharply to the huge swing in exchange rates that occurred in the 1980s. This may have been the most expensive round trip in recent history, save perhaps for the big swing in oil prices that started and ended earlier. It would have been very expensive if the effects of the strong dollar had been fully reversed when the exchange-rate movement was reversed, but the costs have been much bigger, because the effects will not be reversed completely.

Whole industries and regions in the United States have been affected permanently, because plants that were shut down when their products became uncompetitive will not be reopened. They were not inefficient in 1980 but have been rendered obsolete by decisions and events taken in the interim, in response to the change in the real exchange rate. Export and domestic markets have been lost to foreign competitors, who invested heavily to capture them initially and will not give them up, even though they are not as profitable now.[15] This is not a mercantilistic dirge. It is a lament for wasted resources--for the physical and human capital that has been misallocated, not only in the United States but in the rest of the world as well.

But was the whole trip necessary? Was the foreign-exchange market doing a job that other markets could not do because goods prices are not flexible enough? That is the key question.

Krugman (1988a) dismisses the question derisively, saying that there was no fundamental reason for raising the real value of the dollar in 1984 only to reduce it 1985, and he argues persuasively that this particular segment of the whole round trip reflected irrational behavior by the foreign-exchange market. It

Figure 2.2 Nominal and real effective exchange rates for the U.S. dollar, 1971-1987



Source: Morgan Guaranty Trust, World Financial Markets, various issues; includes currencies of 15 industrial countries weighted by bilateral trade in manufactures.

is harder, however, to blame the whole round trip on that sort of behavior. The appreciation of the dollar began with the tightening of U.S. monetary policy in 1979. It was driven thereafter by the capital inflow induced by the combination of tight money with a large and growing budget deficit. In this simple but meaningful sense, the first part of the round trip was necessary. It was the inevitable consequence of the policies pursued by the United States.

How then should we apportion blame for the whole round trip? Some of the blame must be borne by the foreign-exchange market, not just for the speculative bubble of 1984-85 but for taking a typically myopic view two or three years earlier. If its inhabitants had been endowed with the marvelous attributes displayed by those who populate many economists' models, they would have known that the budget and trade deficits could not last indefinitely and that the dollar would have to return eventually to something near its 1980 level. As soon as the dollar started to rise, then, they would have begun to bet against it, selling dollars rather than buying them. In other words, they would have engaged in stabilizing speculation on a scale sufficiently large to keep the nominal and real exchange rates from changing significantly. (This argument would hold, moreover, if the capital inflow had not been due to the policy mix but rather to the "safe haven" motive invoked by the Reagan administration to defend its policies from those who blamed them for the rising dollar.)

The rest of the blame, however, must be borne by U.S. policies or by the exchange-rate regime. It is tempting, of course, to blame U.S. policies, which is what all right-thinking monetarists would have done if some had not been obliged to defend them.

But that is to make the same mistake that economists make too often--to evaluate exchange-rate regimes under ideal policies. The lesson taught by the round trip of 1980-87 has to do with the high cost of imperfect policies under floating exchange rates--the point made earlier in different terms, that floating rates produce a peculiarly painful form of interdependence. It could have been illustrated just as vividly by British experience in 1980-81, when the policies of the Thatcher government caused sterling to appreciate in nominal and real terms, with irreversible effects on Britain's economic landscape. There will be times, moreover, when the most sensible policies affect exchange rates in ways that are not essential or even helpful to the central purposes of those policies.

The core of the case for exchange-rate management is the sad but simple fact that policies and markets are both imperfect and interact in costly ways under floating rates.

The case for exchange-rate management, however, cannot be made wholly by indirection--by showing that floating exchange rates have been more costly than their advocates or critics had expected. Like democracy, a floating-rate regime could be worse than any other apart from those might replace it. It is therefore necessary to examine the varieties of exchange-rate management that have been tried in the past or proposed for the future, not only to ask how costly they may be but whether exchange-rate management is feasible. That is the task ahead.

NOTES

1. I borrow from Keynes (1936, p. 156), who compared professional investment with competitions that are won by guessing which of a hundred faces will be chosen as prettiest by the largest number of competitors "... so that each competitor has to pick, not those faces which he himself finds prettiest, but those which he thinks likeliest to catch the fancy of the other competitors, all of whom are looking at the problem from the same point of view. It is not a case of choosing those which ... are really the prettiest, nor even those which average opinion genuinely thinks the prettiest. We have reached the third degree where we devote our intelligences to anticipating what average opinion expects the average opinion to be."

2. Dornbusch and Frankel (1987) point out that these models did not represent state-of-the art analysis twenty years ago; economists were well aware of their flaws. But the models that inform--or misinform--discussions about policy, even by professional economists, are not the models used in current teaching and research; they are simplified versions of older models, which are widely understood and thus facilitate communication.

3. See, e.g., de Vries (1987), who argues that it was not difficult to rectify imbalances between aggregate demand (absorption) and aggregate supply (income), which is the essence of current-account adjustment; aggregate supply was growing rapidly and it was thus sufficient to reduce the growth rate of aggregate demand until supply caught up, not necessary to cut the level of demand. There is some truth to this view, and it sharpens the contrast between adjustment in the 1950s and 1960s on the one hand and in the 1970s and 1980s on the other. But those who had to manage aggregate demand in that "golden era" would be quick to caution that it was not easy.

4. This was the dilemma posed by Triffin (1960); it was the underlying rationale for the First Amendment to the Articles of Agreement of the IMF, on the creation and use of Special Drawing Rights (SDRs).

5. We owe this formulation to Mundell (1969), although the problem was understood earlier, as indicated in the text below.

6. Its concurrence was not required if the change, together with all previous changes, would alter the member's par value by no more than 10 percent of its initial value, and it had to concur in any other change proposed by a member if, in the Fund's own judgment, the change was needed to correct a fundamental disequilibrium. (That term, however, was not defined in the Articles of Agreement.) A member that changed its par value despite the Fund's objections was barred automatically from drawing on the Fund, unless granted an exception. But the Fund was not allowed to initiate or recommend changes in par values.

7. When working through this political arithmetic, remember that all three exchange rates were pegged, so that a revaluation of the mark would necessarily raise its value in terms of the

dollar, not merely in terms of the franc. That is not true now; a revaluation of the mark within the EMS does not necessarily raise its value in terms of the dollar. The three episodes cited in this paragraph are described at length in Solomon (1982), chs. iii, v, and ix.

8. See Solomon (1982), chs. x-xiii, for an account of these developments, including the debates within the U.S. government that led it to adopt a confrontational approach.

9. The Committee was established in keeping with the Smithsonian Agreement, which said that "discussions should be promptly undertaken, particularly in the framework of the IMF, to consider reform of the international monetary system" and that "attention should be directed to the appropriate monetary means and division of responsibilities for defending stable exchange rates and for insuring a proper degree of convertibility ... ." The first comprehensive proposal for reform was made by Secretary Shultz in September 1972; it was based on the premise that most countries would want to peg their exchange rates but included floating as an option. A communiqué issued by the Committee days after the float began said that "the exchange rate regime should remain based on stable but adjustable par values" but that "floating rates could provide a useful technique in particular situations." Similar language appeared in the Outline of Reform published some months later. On the work of the Committee, see Solomon (1982), ch. xiv, and Williamson (1977, 1982).

10. This interpretation draws on Kenen (1973).

11. See, e.g, Balladur (1988), although his proposals are more imaginative than those which used to come from Paris.

12. See, e.g., Giavazzi and Pagano (1986), Melitz (1987), and Tsoukalis (1987). But Tsoukalis rightly notes that the empirical evidence on the actual gains from EMS membership, viewed from this standpoint, is less persuasive than was the force of the argument on the incentive to join; see Ungerer, et al. (1986), Collins (1988), and Artis and Taylor (1988).

13. The interest in a European central bank, however, may reflect another worrisome concern, that the abolition of capital controls required to complete the common market by 1992 will undermine the stability of the EMS unless it is transformed into a system of permanently fixed exchange rates. Capital controls are discussed in Chapter 4.

14. See, e.g., Dominguez (1986a), Frankel and Froot (1986, 1987), and Krugman (1988a); recent research on this and related issues is surveyed by Dornbusch and Frankel (1987).

15. This theme is developed more fully by Krugman (1988a), drawing partly on work by Dixit (1987) concerning the effects of uncertainty about the future exchange rate. A firm that has made the investment required to enter a market may stay in that market when the exchange rate turns against it, even though it cannot cover its variable costs, if it is uncertain about the permanence of the new exchange rate. Conversely, a firm that has left

the market may not make the investment required to re-enter it when the exchange rate moves in its favor. Costs of entry and re-entry combine with exchange-rate variability to reduce the firms' responsiveness to the current exchange rate.

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3 METHODS OF MANAGING EXCHANGE RATES

The Range of Possibilities

There are many ways to manage exchange rates. At one extreme, governments can try by word or deed to influence attitudes in the foreign-exchange market; as those efforts weaken in intensity and frequency, exchange rates float more freely. At the other extreme, exchange rates can be fixed unconditionally within a narrow band; as the fixing becomes more permanent and the band narrower, exchange-rate management approaches full-fledged currency unification.

Most methods of management, however, lie well within those two extremes. They involve conditional commitments to keep exchange rates within bands defined in relation to central or target rates, and they can be described by answering four questions:[1]

(1) How are the central rates chosen and changed, in order to locate and shift the bands?

(2) How firm and narrow are the bands?

(3) What policy instruments are used to keep rates within them?

(4) How much do markets know about the answers to the first three questions?

The questions can be answered independently, but some sets of answers do not add up sensibly. Answers to the second question, for example, affect answers to the third; when the bands are firm and narrow, official intervention must be used to keep market

rates within them, because other policy instruments cannot do the job unaided. More important, answers to the fourth question rule out certain answers to the first and second; when the market is well informed about the governments' rules or practices, it can be hard to make large shifts in narrow bands, which is why the Bretton Woods System became so brittle.

This chapter deals with the first three questions. The next chapter deals with the fourth and with the constraints it places on the adding up of answers. It argues that markets should be well informed and shows why this may mean that there is no viable half-way house between freely floating and tightly managed rates. Before looking at the answers to the first three questions, however, let us look briefly at the main alternative to systematic management--the use of words or deeds to alter expectations and thus manage floating rates in an ad hoc, episodic manner.[2]

Episodic Management

Many things that governments say and do can influence attitudes in the foreign-exchange market, as can expectations about future actions, whether well founded or not. From time to time, moreover, words and deeds are chosen with that as the main aim--to change the market's views about the outlook for exchange rates or the certainty with which it holds its views.

Economists tend to be skeptical about the effectiveness of these methods, because of their abiding faith in the quality of the information embodied in exchange rates. If markets are well informed and process information accurately, governments can affect exchange rates only by altering or promising to alter the fundamental economic conditions that determine exchange-rate behavior in the long run.

In the monetary models of the 1970s, for example, the path of the exchange rate was determined primarily by relative rates of growth in national money supplies, and the market knew this. The words and deeds of governments were thus ineffective unless they supplied new information about those rates of growth. In those models, for example, intervention could not influence exchange rates unless it affected the money supply or was deemed to convey information about the future of the money supply.*

But exchange rates depend on many fundamentals, not just money supplies, so governments have many ways to influence the market's views. Furthermore, the inhabitants of the foreign-exchange market have diverse objectives and different ways of processing new information. They disagree among themselves and hold their views with varying degrees of confidence. If they had the same objectives and held the same views, they would want to take the same positions in the market, and the advent of new information would change exchange rates without changing those positions. There would be no need for trading. By implication, the vast amount of trading in foreign-exchange markets must testify to differences of view within the market, although the views that matter most for the course of trading may have less to do with economic fundamentals than with traders' views about other traders' views--with average opinion now about average opinion an hour from now.

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*Ordinarily, intervention affects the money supply directly. When a central bank buys foreign currency, it pays by issuing a claim on itself and thus adds to the cash reserves of the banking system. To neutralize this impact on the money supply, the central bank must extinguish the newly created claim by selling domestic assets, such as government securities. This is sterilized intervention.

In the real world, then, the words and deeds of governments can influence exchange rates. That is why Secretary Blumenthal's remarks were influential in June 1977, when the dollar began to depreciate, why policy announcements and intervention halted the depreciation in November 1978, and why the Plaza Agreement was influential in September 1985, when the dollar started to depreciate again.[3] It also explains why joint announcements and collective intervention tend to be more effective than unilateral words and deeds, and why of intervention can be quite effective when it is carefully timed, even when it is quite small compared to the huge turnover in the foreign-exchange market.

When governments give the appearance of being united and of holding their views firmly, while market participants are divided and uncertain, official pronouncements about exchange rates can have large effects, especially when backed by intervention or the threat of intervention, and intervention can be effective even when markets are skeptical about the governments' pronouncements.

A dramatic demonstration took place early in January 1988, when the authorities halted a run on the dollar and turned it around sharply. Two weeks earlier, on December 22, the G-7 governments had issued the second version of the Louvre Accord,[4] but the foreign-exchange market was not impressed. The dollar went on falling. Yet the market had reason to wonder how far the dollar would fall, because the U.S. trade deficit appeared to be shrinking in response to the large depreciation that had already taken place. Average opinion predicted a further fall in the dollar, but evidence analyzed in the appendix to this paper suggests that this expectation was was not firmly held, and the authorities were able to drive the market to cover by abrupt,

concerted intervention at the start of January. The dollar rose and then stayed stable for many weeks.

In each of these three episodes, the authorities were unhappy with the actual or prospective level of exchange rates. Another approach to exchange-rate management attempts to maintain "orderly markets" by using intervention to "lean against the wind" and thus reduce the speed at which exchange rates are changing. Two quite different reasons have been given for following this strategy. The first appeals to the risk that rapidly changing rates are likely to spawn speculative bubbles. The second appeals to the need for smoothing medium-term exchange-rate movements--for avoiding the round trips in real exchange rates cited in Chapter 2 as the principal justification for exchange-rate management.

The first reason is weak analytically, because a rapidly changing exchange rate is apt to be the symptom rather than the cause of a speculative bubble. Furthermore, the spawning of a speculative bubble calls for the authorities to act abruptly and thus alter expectations, as they did in January 1988, not to retreat slowly in the face of market pressures.

The second reason may be somewhat stronger analytically, although there are objections to it, most notably the risk that "leaning against the wind" will aggravate exchange-rate movements if the market interprets the intensity of intervention as a measure of the authorities' concern about the strength of the forces driving the exchange rate and place their bets on a further movement of the rate rather than an early reversal.[5] But the stronger the argument becomes, the stronger is the case for systematic

management rather than episodic intervention--which brings us to the questions posed at the outset of this chapter.

Two Caveats

There are two ways to answer those questions--by looking at various methods of exchange-rate management, historical and hypothetical, to ask how each one answers them, or by looking at the questions, one by one, to explore the possibilities, and using the various methods of management as illustrations. The second approach is less tedious, but two warnings must be borne in mind.

First, we are dealing with exchange-rate arrangements for the large industrial countries, which have to be chosen and managed collectively, rather than arrangements for small countries, which can choose their exchange-rate regimes independently, without systemic consequences. (This distinction is breaking down, however, because the exchange-rate policies of certain developing countries, notably Korea and Taiwan, have begun to have significant effects on the major countries. They were mentioned obliquely in the third version of the Louvre Accord--the G-7 Communiqué of April 1988.)

Second, an exchange-rate regime adds up to more than the sum of its technical characteristics, and it does not function in a vacuum. The early success and subsequent disintegration of the Bretton Woods System was connected in many subtle ways to the changing economic and political roles of the United States and the changing quality of U.S. policies. The success of the European Monetary System has been connected to the acceptability if not dominance of German monetary policy and to the political link between the EMS and the European Community.

The Central Rates

There are many ways to solve the technical problem of setting central rates. The value of each currency can be defined in terms of some outside asset such as gold, the method used originally in the IMF Articles of Agreement. It can be defined in terms of a common basket of currencies such as the Special Drawing Right (SDR) used by the IMF or the European Currency Unit (ECU) used by the EMS. It can be defined in terms of some national currency, whether or not a key currency in any other sense. These values can then be used to define a central rate for each pair of currencies, which locates the center of the band for the bilateral exchange rate between them. And these techniques do not exhaust the possibilities. Williamson (1985) proposes a different approach. Instead of defining a central rate for each pair of currencies, he would use the effective exchange rate for each national currency. This is a weighted average value of that country's currency in terms of all other important currencies, where "importance" is defined by the impact of those currencies on the country's current-account balance.[6]

Williamson's system is simpler in one way, because there is just one band for each country's currency--the one that surrounds its effective rate. It is more complicated in other ways, because it is not symmetrical. The Canadian dollar and Mexican peso are more important for the U.S. current account than for the German or Japanese, and changes in their values will alter the effective rate for the U.S. dollar without having a comparable impact on the effective rates for the mark or yen. The asymmetry is not important in itself but can complicate the allocation of responsibilities among governments involved in exchange-rate management.

If the Mexican peso appreciates in terms of all other currencies, the effective rate for the dollar will depreciate but not those for the mark and yen. Therefore, the United States will be seen to bear the whole responsibility for keeping the dollar within its band. But the U.S. policy response will alter the effective rates for the mark and yen and may thus lead to changes in German and Japanese policies. The dollar must be made to appreciate in terms of those currencies because it has depreciated in terms of the peso. As this happens, however, the effective rates for the mark and yen must start to depreciate. Hence, German and Japanese policies may have to change in parallel with U.S. policies, rather than going in the opposite direction as they would in a fully symmetrical system.[7]

When a small number of major countries undertake to manage their exchange rates collectively, the framework for management should be designed symmetrically, in order to define obligations clearly and shut out extraneous complications.

Once a method has been chosen for defining central rates, the method for changing them has likewise been chosen. But the political and economic problems are far harder than the definitional problem.

The political problem is, of course, the old Nth country problem, and it has only one solution. Decisions about central rates must be made by governments, and unanimity must be the rule, as it is in the EMS. Passivity is out of date, and supranationality is out of reach. Nevertheless, the IMF can play a useful role, much like the role it already plays in the multilateral surveillance of G-7 policies. It can supply the numbers and furnish the analysis needed for an orderly discussion among

governments, and the Managing Director should not be excluded from the actual decision-making process.

The economic problem is easy to formulate. Central rates will not be viable for very long unless they are approximately equal to long-term equilibrium exchange rates. But what is the long-term equilibrium rate? When the question is put to governments, they make vague statements about the mutual compatibility of their policies and forecasts. When it is put to economists, they defer to the superior judgment of the market or retreat behind an answering volley of questions about hard analytical and normative problems.

The basic analytical problem is ignorance. Meese and Rogoff (1983) have shown decisively that simple econometric models cannot predict exchange rates. Frankel (1987a) has shown that large multicountry models disagree fundamentally about the behavior of the world economy--about the sizes and even the signs of policy multipliers, which measure the effects of one country's policies on other economies, and about the sizes of the changes in trade flows produced by changing real exchange rates. This is the problem of "model uncertainty" so heavily emphasized in recent discussions of policy coordination.[8] Furthermore, new theoretical work suggests that small and large models alike may miss the mark completely by failing to allow for the irreversible nature of changes in trade patterns.[9]

The basic normative problem arises from two difficulties. The first has to do with domestic targets, the second with consistency in current-account targets.

Even if we had an acceptable model, showing how current-account balances respond to incomes, prices, and exchange rates,

we could not compute equilibrium exchange rates without knowing what governments seek to achieve domestically--their targets for growth, employment, and inflation. In fact, we would need the consent of each government to all other governments' aims. If Washington objected to the German growth rate and Bonn objected to the U.S. inflation rate, both would object to the dollar-mark rate ground out by the model.

The problem of consistency would not arise in the absence of capital flows; each country's current-account balance would have to be zero. As soon as we admit capital flows, however, current-account balances can differ from zero. It is therefore impossible to define equilibrium exchange rates without first defining an appropriate set of current-account balances, and the difficulty here becomes even clearer when the job is tackled from the other end--defining appropriate capital flows.

Those flows need not add up to zero for the particular subset of countries involved in exchange-rate management. But the net flow to or from the group must make sense from a global standpoint. It would not make sense right now, for example, if it implied a large net outflow to the less-developed countries, unless the developed countries were prepared to increase their lending. And capital flows <u>within</u> the group must be seen to make sense from two other perspectives. First, they must be sustainable over the medium term. Second, they must be broadly consistent with the monetary and fiscal policies that governments plan to pursue in the coming years. No one knows how to deal with these issues. Williamson has faced them frankly but has not satisfied his critics.[10]

This long list of problems would be daunting if governments were trying to fix exchange rates permanently. They are not so serious in the present context--the search for a starting point. It is less important for governments to be agreed and confident about the sustainability of the initial central rates than for them to reach agreement on two other matters--the policies that each of them should follow in order to validate those rates and the process they will use for altering the rates, not only to deal with new disturbances but also to correct mistakes in the initial settings. Criticism of the Louvre Accord has focused too heavily on the "wrongness" of the rates that the G-7 governments chose to endorse. There has been too little criticism of the governments' failure to pursue domestic policies that might have made those rates sustainable and of their apparent failure to adopt procedures for reviewing and revising their exchange-rate commitments in the light of new information.

It is instructive to recall the situation in 1979, when the EMS came into being. Inflation rates were high and different across countries, and there were large differences in national policies (see Table 3.1). It would have been hard to choose a less auspicious year for setting central rates. But those rates were altered in the years that followed, more frequently than many had thought possible. There were four realignments in the first four years and three more in the next three years (see Table 3.2). Furthermore, governments adapted their policies to their exchange-rate commitments, and some of them used those commitments effectively to win domestic political support for policies required to combat inflation.

Table 3.1 Economic indicators for EMS countries, 1979

Country	Inflation Rate	Growth Rate of Money Supply	Budget Deficit as Percentage of GDP
Belgium	4.5	2.5	7.6
Denmark	9.6	9.9	0.7
France	10.8	11.8	1.5
Germany	4.1	2.9	2.0
Ireland	13.2	8.1	11.9
Italy	14.8	23.7	10.2
Netherlands	4.2	2.8	4.6

Source: Inflation rates (consumer prices) and budget deficits (central governments) from International Monetary Fund, International Financial Statistics; growth rates of money supplies (narrow money) from Ungerer et al. (1986).

There are no formal rules for realigning central rates in the EMS. The process is initiated whenever any member wants to change its rate.[11] But three special circumstances have helped to make the process work. (1) Because the EMS is linked to the EC, the threat to quit--and float--cannot be made easily. There has been hard bargaining about realignments, but no one has walked out. (2) An informal norm has been established gradually. Realignments may be sought only to offset losses of competitiveness--to bring a member's real rate back to what it was before--not to enhance competitiveness. This sets outer limits to the bargaining process. (3) The chronically strong mark has confronted the German authorities with the same dilemma they have faced so often, and they have resolved it in the usual way, by letting the mark appreciate rather than letting the money supply rise. If they had they opposed or delayed realignments, they would have forced their partners to borrow marks for intervention, which would have raised the German money supply.

A looser grouping of large countries--the United States, Japan, and Germany, for instance--might find it much more difficult to realign their central rates frequently and speedily. There is intense commercial rivalry among them, and there is no global counterpart of the EC to discourage them from disrupting the negotiating process when they cannot get their way.

Would it perhaps be helpful to use "objective indicators" to focus and structure the negotiating process? The possible candidates do not look promising.[12]

The equilibrium exchange rate would be the ideal indicator, because the central rate should change whenever it changes, and that is what Williamson proposes. But all of the issues discussed

Table 3.2 Changes in EMS central rates

Currency	Sept. 1979	Nov. 1979	Mar. 1981	Oct. 1981	Feb. 1982	June 1982	Mar. 1983	July 1985	Apr. 1986	Aug. 1986	Jan. 1987
Belgian franc	0.0	0.0	0.0	0.0	-8.5	0.0	+1.5	+2.0	+1.0	0.0	+2.0
Danish kroner	-2.9	-4.8	0.0	0.0	-3.0	0.0	+2.5	+2.0	+1.0	0.0	0.0
German mark	+2.0	0.0	0.0	+5.5	0.0	+4.25	+5.5	+2.0	+3.0	0.0	+3.0
French franc	0.0	0.0	0.0	-3.0	0.0	-5.75	-2.5	+2.0	-3.0	0.0	0.0
Irish punt	0.0	0.0	0.0	0.0	0.0	0.0	-3.5	+2.0	0.0	-8.0	0.0
Italian lira	0.0	0.0	-6.0	-3.0	0.0	-2.75	-2.5	-6.0	0.0	0.0	0.0
Dutch guilder	0.0	0.0	0.0	+5.5	0.0	+4.25	+3.5	+2.0	+3.0	0.0	+3.0

Source: Ungerer et al. (1986) and Artis and Taylor (1987); appreciations (+) and depreciations (-) are the percentage changes against the group of currencies whose bilateral rates remained unchanged (except for the realignments of March 1983 and July 1985, involving all currencies, for which the percentages shown are those given in the official communiques); the corresponding changes against the ECU are slightly different, because the value of the ECU is affected by each realignment.

above get in the way of using it--the problem of model uncertainty, the need for mutual consent to domestic targets, and the very difficult problem of defining appropriate capital flows. It might thus be wise to use less contentious indicators--numbers that raise questions rather than numbers that purport to give answers.

The real exchange rate is one such number. If one country's prices rise more rapidly than others', its currency will have to depreciate eventually. That is the kernel of truth in the purchasing-power parity (PPP) doctrine and the basis for the norm adopted informally by the EMS. (It is likewise implicit in Williamson's proposal, because unwanted changes in effective real rates would be precluded by automatic changes in effective nominal rates.) But real exchange rates must not get stuck. They must be adjusted periodically to compensate for secular shifts in economic conditions. Otherwise, those shifts will make themselves felt in less acceptable ways, most notably and dangerously in mounting protectionist pressures.[13]

The current-account balance is useful in principle because it is bound to reflect some of the secular shifts that need to be offset by exchange-rate realignments. It is less useful in practice, however, because it changes sharply in response to cyclical and other short-term forces but slowly in response to the real exchange rate itself. There are ways to adjust the raw numbers--to smooth away cyclical and transitory changes and update the influence of previous exchange-rate changes--but not without raising the same contentious issues that have to be resolved before one can compute equilibrium exchange rates.

Two other indicators--changes in reserves and changes in exchange rates--have been proposed from time to time and appear

on the list of indicators currently used by the G-7 countries in policy surveillance.[14] Their usefulness, however, depends in part on the characteristics of the exchange-rate regime. One with narrow and firm bands would stop a rate-based indicator from saying very much but would probably require enough intervention to send some information through a reserve-based indicator. One with wide and soft bands would work the other way. Both of these indicators, however, speak primarily to the state of play in the foreign-exchange market and are thus redundant from the governments' standpoint. Governments already know what pressures they have faced. They need to know what pressures they are likely to face over the long term.

The Bands

Under the Bretton Woods System, exchange rates were contained within narrow and hard bands. Until the Smithsonian Agreement of 1971, the spread was only 2 percent; thereafter, it was 4.5 percent. So too in the EMS, where the spread is likewise 4.5 percent for six of the participating currencies and 12 percent for the Italian lira. Under Williamson's target-zone proposal, by contrast, the bands would be wide and soft. Effective rates could change by 20 percent, which means that any single bilateral rate could cross an even wider zone, and governments would not be obliged to intervene when exchange rates reached the edges of their bands but merely pledged to guard against this possibility by making appropriate policy adjustments. The most recent version of that proposal is reproduced in Figure 3.1.[15]

The case for hard bands--for mandatory intervention to keep exchange rates from crossing the boundaries--is made in the next chapter. It is based on the need to anchor expectations in the

Figure 3.1 The Williamson-Miller target zone proposal

The Blueprint

The participating countries [the Group of Seven] agree that they will conduct their macroeconomic policies with a view to pursuing the following two intermediate targets:

(1) A rate of growth of domestic demand in each country calculated according to a formula designed to promote the fastest growth of output consistent with gradual reduction of inflation to an acceptable level and agreed adjustment of the current account of the balance of payments.

(2) A real effective exchange that will not deviate by more than [10] percent from an internationally agreed estimate of the "fundamental equilibrium exchange rate," the rate estimated to be consistent with simultaneous internal and external balance in the medium term.

To that end, the participants agree that they will modify their monetary and fiscal policies according to the following principles:

(A) The average level of world ~~interest~~ (real) short-term interest rates should be revised up (down) if aggregate growth of national income is threatening to exceed (fall short of) the sum of the target growth of nominal demand for the participating countries.

(B) Differences in short-term interest rates among countries should be revised when necessary to supplement intervention in the exchange markets to prevent the deviation of currencies from their target ranges.

(C) National fiscal policies should be revised with a view to achieving national target rates of growth of domestic demand.

The rules (A) to (C) should be constrained by the medium-term objective of maintaining the real interest rate in its historically normal range and of avoiding an increasing or excessive ratio of public debt to GNP.

Source: Miller and Williamson (1987), p. 2; brackets and italics in original.

foreign-exchange market. But hardness and narrowness need not go together, although that has been the normal practice. There is, in fact, a strong case for using fairly wide bands.

First, the exchange rate must have some leeway to participate in the balance-of-payments adjustment process. Admittedly, exchange-rate movements may have been more hurtful than helpful during the last few years, and modest movements may not make a major contribution. But they can be more helpful and more potent if exchange-rate expectations are more firmly anchored. They can be more helpful because they are less likely to be driven by extrapolative expectations. They can be more potent because the users of exchange rates, especially corporate planners, are less likely to discount the durability of exchange-rate movements.[16] The bands should not be wide enough to offset every shock or shift that needs to be neutralized by changing real exchange rates; large shocks can be handled by realigning central rates. And governments should not be allowed to procrastinate--to leave to the exchange rate the work that should be done by changing domestic policies. It is necessary to discipline governments as well as markets. But market-determined changes in exchange rates should not be suppressed completely.

Second, there is need to give governments some leeway. They need time to make and implement policy decisions and room to compromise between objectives. The rigidities and long lags in adjusting fiscal policies, not only in the United States, but in other countries too, mean that monetary policies cannot be used exclusively for exchange-rate management. They have also to be used for demand management.[17] Furthermore, governments need room for maneuver in the foreign-exchange market. Although it is im-

portant to anchor expectations--for the market to know that governments mean what they say when they promise to prevent large exchange-rate swings--it is equally important for governments to have tactical flexibility. They must be able to surprise the market from time to time, as they did in January 1988, when they exploited and increased uncertainty about the near-term outlook for exchange rates.

Third, the foreign-exchange market must not be invited to make one-way bets of the sort that provoked speculative crises under the Bretton Woods System:

> Each government accepted the obligation to defend a narrow band around a fixed [parity] until further notice, but reserved the right to change the parity. Those fixed rates periodically became disequilibrium rates ... , either through real shocks or more typically through differential inflation. Since governments were supposed to maintain fixed parities except <u>in extremis</u>, they could hardly propose a parity change before it was obvious to all that a change was necessary. But when the market came to realize that a change was needed, a switch out (in) offered the prospect of substantial overnight gains if the currency was devalued (revalued) and the central bank was obliged to buy (sell) back its foreign exchange reserves at a higher price than it had sold (bought) them, at negligible risk (because of the narrow band) if the parity was unchanged. This was the famous one-way bet. To offer speculators a one-way bet is indeed to give them a field day (Williamson and Miller, 1987, pp. 58-59).

There are two ways of shifting the odds against this possibility --by fostering uncertainty about the timing of realignments and by making the exchange-rate band wide enough to accommodate the realignments.

The first is hard but not impossible. There is no need for finance ministers to meet with ostentatious confidentiality. They need not meet at all. Telephones and scramblers are sufficient. It may even be possible to introduce an element of randomness into the timing of realignments. Exchange rates should not be moved

around merely to make noise and confuse the market. Nevertheless, realignments should be undertaken before the need for them has become transparently clear, even at the risk of having to reverse them later.

The second task is easier in principle and practice. Speculators can make one-way bets only when they know that a change in central rates will be large enough to drag market exchange rates with them. Suppose that the lira rests at the bottom of its 12 percent EMS band. If it is devalued by more by more than 12 percent, the top of the new band will lie below the bottom of the old one, which means that the market rate must move with the central rate, and those who have sold lire in anticipation of the devaluation will be able to buy them back at a lower price. If the lira is devalued by less than 12 percent, however, the top of the new band will lie above the bottom of the old, and the market rate need not move at all. It can indeed be driven in the opposite direction, as those who sold lire before the devaluation begin to repurchase them. This is what is meant by making the band wide enough to accommodate realignments.[18]

Although the EMS bands are quite narrow, they have been wide enough to accommodate many of the realignments shown in Table 3.2. The record is reviewed in the appendix to this paper, which shows that the new and old bands overlapped in 70 percent of all of the cases in which realignments changed the bilateral bands and in 60 percent of the narrow-band cases (i.e., excluding those involving the lira). Furthermore, bands as wide as those for the lira would have accommodated <u>all</u> of the realignments. The largest change shown in Table 3.2 was the 10 percent devaluation of the French franc in terms of the Deutsche mark, in June 1982. By con-

trast, all of the exchange-rate changes made by major industrial countries from 1950 through 1970 were bigger than the 4.5 percent EMS band, and three were bigger than the 12 percent band for the lira.[19]

The width of the band required to accommodate realignments is the quotient of two numbers--the rate of change in central rates required to avoid cumulative disequilibria and the frequency with which realignments can be made. Because it might be hard to realign the key exchange rates more than once a year, and changes in nominal exchange rates must be large enough to offset differences between inflation rates as well as to offset real shocks and shifts, bands for the key currencies should not be narrower than 10 percent. A larger number might be prudent, but too big to anchor expectations.

The Policy Instruments

What policy instruments should governments use to keep exchange rates from leaving their bands? It is useful to begin with the old distinction between financing and adjustment. A country can finance a balance-of-payments deficit by using reserves or reserve credit; that is much the same as saying that it can intervene on the foreign-exchange market to stabilize its currency. Alternatively, it can eliminate the deficit by adjusting its macroeconomic policies or changing its exchange rate or can suppress the deficit by trade or capital controls.

There is a clear case for financing a temporary deficit; well-functioning markets would do this on their own under floating exchange rates and would thus stabilize the rates themselves. But that does not exhaust the issue. On the one hand, a government should not rely entirely on financing, even for a temporary

deficit, if it is unwilling to draw down its reserves without rebuilding them later or must repay reserve credits. On the other hand, adjustment takes time, and the fastest path to long-run equilibrium may not be the best path when prices and wages are sticky. Adjustment and financing must go together.[20]

To complicate matters, a deficit can be financed by attracting private capital inflows rather than using reserves. Therefore, intervention and interest-rate policies can be used jointly to finance imbalances and thus stabilize exchange rates. That is the view taken in the Williamson-Miller Blueprint reproduced above as Figure 3.1. Intervention and interest-rate differences are assigned to keeping effective exchange rates from leaving their bands, while the global average of real interest rates and national fiscal policies are assigned to controlling domestic demand. The successful control of domestic demand can be described as preemptive adjustment because it avoids inflations and recessions that would lead to external imbalances. The rest is left to exchange-rate changes. In the Williamson-Miller framework, these are made automatically to compensate for differences in national inflation rates, insofar as they are not prevented by controlling domestic demand, and the automatic changes are reinforced by periodic realignments to keep effective central rates in line with long-run equilibrium rates.

The same basic approach is recommended by Meade (1984) and goes back to Mundell (1962). It is more sensible than the framework proposed by McKinnon (1988), who argues that fiscal policies should be used to regulate current-account balances, because real exchange rates do not affect them, that the global money supply should be used to control or anchor the global price level, and

that intervention should be used to keep exchange rates at purchasing-power parity. He is answered by Krugman (1988a), Dornbusch (1988), and others, who point out that fiscal policies cannot control current-account balances without imposing unemployment on deficit countries and inflationary pressures on surplus countries. They may be needed to validate changes in real exchange rates but cannot replace them. Simulations by Currie and Wren-Lewis (1988) support this view; feedback rules based on the Williamson-Miller framework do better than rules which assign fiscal policies to the regulation of current-account balances and monetary policies to the regulation of aggregate demand.

While eminently sensible in principle, the Williamson-Miller framework raises two difficult issues. First, the instruments assigned to control domestic demand may be inadequate for that purpose and cannot be used without concern for their balance-of-payments effects. Second, the distinction between intervention and interest-rate or monetary policy may be drawn more sharply than warranted.

Although fiscal policies are not efficient instruments for controlling current-account balances, they do affect those balances. In fact, shifts in fiscal policies are among the hardest disturbances to neutralize by monetary and exchange-rate policies.[21] It would therefore be risky to let governments pursue independent fiscal policies, and a loosely defined domestic target may not constrain them sufficiently. This matter will come up again in Chapter 6, which examines the links between exchange-rate management and macroeconomic policy coordination and argues that the multilateral surveillance of G-7 policies should focus intensively on fiscal policies.

Furthermore, fiscal policies are too cumbersome to control domestic demand completely. Even when they are part of the solution, not part of the problem, they cannot do the whole job. Monetary policies have to be used too, not just to regulate the average interest rate, as in the Williamson-Miller framework, but to set the appropriate interest rate for each country. From time to time, moreover, interest-rate policies must be modified to deal with financial crises; that happened at the start of the debt crisis in 1982 and after the stock-market crash in 1987. This means, in turn, that interest-rate policies cannot be used exclusively to regulate exchange rates, and more must be done by intervention.

This brings us directly to the second issue. If foreign and domestic assets are very close substitutes, governments may not have a large enough number of independent policy instruments to pursue exchange-rate stability and manage aggregate demand simultaneously. The point is usually cast in different form. When foreign and domestic assets are very close substitutes, sterilized intervention is ineffective; a central-bank transaction in foreign currencies cannot have different effects from a central-bank transaction in domestic bonds, so one will cancel the other. Under those conditions, moreover, interest rates are tied tightly together. They cannot be adjusted independently to manage domestic demand but must be used exclusively to manage exchange rates.

What do we know about substitutability among assets denominated in different currencies? The evidence is inconclusive. If assets were perfect substitutes and asset holders had rational expectations, the foreign-exchange market would be efficient in the finance-theoretic sense; the forward rate would be the best

predictor of the future spot rate. Econometric evidence rejects this view.[22] But that does not settle the matter. It may merely say that expectations are not rational or that the rationality of expectations cannot be represented in the conventional way, by using the actual exchange rate to stand for the expected rate.[23] Evidence concerning the effectiveness of sterilized intervention is likewise inconclusive. Simulations have shown that it is less effective than nonsterilized intervention,[24] and Rogoff (1984) has found that sterilized intervention does not have any effect on exchange rates, but different results have been obtained by others.[25]

Several studies appear to show that central banks have offset changes in reserves by changes in domestic assets.[26] But these results are not conclusive, nor do they bear directly on the effectiveness of sterilized intervention. If foreign and domestic assets were perfect substitutes, a change in domestic assets would induce an equal but opposite change in foreign assets, and this would look like sterilization. We must be able to distinguish cause from effect before we can draw strong conclusions from these studies.

The debate is not over, and it is equally appropriate to criticize policy recommendations which depend heavily on the effectiveness of sterilized intervention and those which depend on the limiting assumption of perfect substitutability. Nevertheless, one point is clear. Even if foreign and domestic assets are very close substitutes, intervention may be the most effective way of defending hard margins. There are two reasons.

First, it is impossible to know in advance the size of the open-market operation required to achieve a given result in the

foreign-exchange market. Intervention at the margin, by contrast, is a price-fixing strategy that makes it unnecessary to worry about quantities, which become endogenous. Second, the transmission of events from one market to another does not take place instantaneously, which means that a well-calculated open-market operation in the bond market may not have an immediate, one-to-one effect in the foreign-exchange market, even when this is the effect it should have on average.

All arrangements involving hard bands necessitate intervention. They can differ only in the ways that they assign or divide responsibility among the participating countries. Those differences are not unimportant, however, when combined with other institutional features of the monetary system. These matters come up again in Chapter 5.

NOTES

1. Frenkel and Goldstein (1986) use similar questions to organize their analysis of target zones, and I have borrowed some their answers as well.

2. A systematic treatment of the possibilities would also look at currency unification. It is being discussed actively in Europe (see, e.g., Gros and Thygesen, 1988) and has been proposed in one form or another for the whole group of industrial countries. A gold standard or McKinnon's gold standard without gold would go far in that direction, and Cooper (1984) goes even farther, calling for central-bank unification. But I pass by those proposals here, as they are not realistic options for the next decade, except in Europe, and I have discussed the issues elsewhere; see Kenen (1969, 1976) and Allen and Kenen (1980).

3. Taken in isolation, the Plaza and Louvre agreements can be viewed as instances of episodic management. Taken jointly and in conjunction with subsequent events, they represent a more systematic approach. The effectiveness of the Plaza Communiqué has been challenged by Feldstein (1986) and others, because the dollar had started to depreciate earlier, and its path did not change sharply after the Communiqué. But the dollar looked to be leveling out in the weeks before the Communiqué and dropped abruptly after it.

4. The December statement was much like its predecessor. It drew attention to policies already adopted rather than announcing new ones, and the operative statement about exchange rates was similar to the passage quoted in Chapter 2, although more guarded. (It said simply that the governments would "cooperate closely on exchange markets," not that they would "cooperate closely to foster stability of exchange rates around current levels.")

5. The Canadian authorities have followed this strategy from time to time, but the strongly regressive character of expectations about the Canadian dollar has probably protected them from perverse expectational effects.

6. The weights used to calculate effective rates derive from the other countries' shares in the trade of the country concerned or from their shares in world trade. The IMF uses a more sophisticated weighting scheme which allows explicitly for the sensitivity of a country's current account to each exchange rate included in its effective rate.

7. If Williamson's aim was to stabilize <u>all</u> exchange rates, parallel movements of U.S., German, and Japanese policies would be appropriate; they would help to stabilize the dollar, mark, and yen against the peso. As he is concerned instead to stabilize the <u>key</u> rates, parallel movements are less appropriate. (An appreciation of the peso could, of course, be offset by reducing the effective central rate for the dollar, which would obviate the need for any change in U.S. policies. But that starts to take us out of Williamson's framework, based on effective rates, back toward a more conventional framework, based on bilateral rates.)

8. See, e.g., Frankel (1987b). The problem is not too serious in that context, because governments can agree to disagree (i.e., decline to coordinate their policies); see Kenen (1987). It may be more serious in the present context, insofar as the sustainability of the exchange-rate regime requires an agreement about central rates and thus an explicit or implicit agreement about equilibrium rates.

9. See Krugman and Baldwin (1987) and Krugman (1988a). The problem of lags, much discussed in the exchange-rate literature, is less important here, as the relevant notion of equilibrium pertains to the medium or long run, in which lags have worked themselves out.

10. See Williamson (1985), Frenkel and Goldstein (1986), Williamson and Miller (1987), and Kenen (1988).

11. See Gros and Thygesen (1988) for more description and discussion.

12. See Crockett and Goldstein (1987) for a broader and less negative view of these and other indicators.

13. Gros and Thygesen (1988) take a different view regarding real exchange rates within the EMS, believing that the requisite adjustments can be made by changing domestic prices and wages rather than nominal exchange rates.

14. The "divergence indicator" adopted initially by the EMS was a rate-based indicator, but it has not worked well; see Ungerer, et al. (1986). Use of a reserve-based indicator was discussed extensively by the Committee of Twenty; see IMF (1974). For a comparison between reserve-based and rate-based indicators, see Kenen (1975), where it is shown that an indicator based on the level of reserves is far inferior to one based on the change in reserves, while indicators based on changes in reserves and on moving averages of actual exchange rates have rather similar properties.

15. This formulation seems "harder" than those in earlier versions (e.g., Williamson, 1985), which surrounded the bands by "soft buffers" and put less stress on intervention. But intervention and interest-rate policy switch places midway through the present version; main reliance is placed on interest-rate policy, "which should be supplemented, or at times might even be replaced by the use of intervention in the foreign exchange markets" (Williamson and Miller, 1987, p. 15).

16. This is an important corollary to the point made by Dixit (1987) and developed by Krugman (1988a) that highly variable exchange rates tend to lose their influence on decisions about market entry and exit.

17. The same point is made by Williamson and Miller (1987), p. 61. In fact, most of the reasons given here for favoring wide bands appear in their list too.

18. A wide band has another helpful consequence. If the lira is not devalued, those who sold it can take losses, and their size will increase with the width of the band. In the example given above, they can take a 12 percent loss if the lira rises to the top of its band, but the loss would be cut in half if the band were cut in half. The wider the band, moreover, the easier it is to realign exchange rates before they reach their limits. If the lira had started at the center of its band, it could have been devalued by as much as 6 percent without forcing the market rate to move with the central rate.

19. This statement covers eight of the G-10 countries plus Switzerland. (Canada is omitted because it had a floating rate for part of the period, and the United States is omitted because its currency was the numeraire.) There were only 7 changes in that 20-year period, and the smallest were the 5 percent revaluations of the Deutsche mark and Dutch guilder in 1961. Those larger than 12 percent were the devaluations of the French franc in 1958 and 1969 and the devaluation of the pound in 1967.

20. The first point is developed in Kenen (1986), which argues that countries may be unable to make the best use of IMF resources because most drawings on the Fund must be repaid rather rapidly. The second point is developed in Kenen (1987) in conjunction with the theory of policy coordination.

21. See Kenen (1987).

22. See Hsieh (1984), Hodrick and Srivastava (1984), and the survey by Levich (1985).

23. These possibilities are raised in recent work by Dominguez (1986a) and Collins (1987). But Frankel and Froot (1987) have used survey data instead, without much more success in isolating the risk premium one would expect to find if foreign and domestic assets were imperfect substitutes.

24. See Obstfeld (1983) and Blundell-Wignall and Masson (1985).

25. See Loopesko (1983), Lewis (1986), and Dominguez (1986b), who reports results which can be taken to imply that sterilized intervention is effective when the central bank's monetary policy lends credibility to its exchange-rate policy.

26. See, e.g., Mastropasqua, et al. (1988), whose results suggest that the German authorities have typically offset more than 60 percent of changes in reserves, while the French and Italians have offset between 25 and 40 percent.

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4 GOVERNMENTS AND MARKETS

Introduction

The previous chapter began with four questions and answered the first three, on the setting and changing of central rates, the width and hardness of the bands around them, and the merits of various policies that might be used to defend them. This chapter answers the fourth, but divides it into positive and normative questions: How much can the market know about the targets and instruments of exchange-rate management? How much should the market know?

The normative question is fundamental. It is another way of asking whether governments can manage exchange rates by imprecise, private understandings among themselves or must adopt more formal rules and publicize some of them.

Let us begin by recalling the main reason for raising these questions. Floating exchange rates have been more costly than expected because they have produced large changes in real exchange rates, which have in turn produced large changes in output and trade patterns that are not completely reversed when exchange-rate movements are reversed. Accordingly, exchange-rate stability has become an important objective in its own right, not merely the incidental reward for following good policies. But stability cannot be achieved merely by endorsing it. Someone must act differently. The questions examined in Chapter 3 were concerned with changing behavior by governments. The questions examined in this chapter are concerned with changing behavior by markets.

Clearly, success in this second task depends on success in the first. Markets will not behave differently unless they believe that governments will do so. The problem is more complicated, however, because market participants are watching each other as well as watching governments, and they tend to focus on near-term prospects for exchange rates rather than long-term prospects for policies. To modify market behavior, then, governments must state their objectives clearly and pursue them by methods that seen to affect exchange rates promptly and decisively. Interest-rate policies, for example, may be less effective than intervention, because their effects on exchange rates may not be prompt or decisive enough, but promises to intervene cannot modify market behavior unless they are backed by adequate reserves.

Commitment, Credibility, and Predictability

Issues of the sort examined in this chapter have played a major role in modern macroeconomic theory. Much attention has been paid to the need for predictable policies and the related problems of commitment and credibility.[1]

Strong results have been obtained using stylized models in which the sequence of events is crucial. Consider the framework used by Barro and Gordon (1983), in which wages and prices are set by the private sector in light of its expectations concerning the inflation rate, which depend on its expectations concerning the money supply.

Suppose that the government promises to raise the money supply at a particular rate and that the private sector expects the government to keep its word. Wages and prices will be set accordingly, determining the actual inflation rate. At this point, the

government has two options. If it keeps its promise, it will exactly validate the actual inflation rate, and there will be no change in output or employment. If it breaks its promise and raises the money supply faster, it will stimulate output and employment, because the actual inflation rate cannot change immediately. If it breaks its word frequently, however, it will lose credibility. The private sector will cease to pay attention to the government's promises; it will start to base its expectations on the rapid growth rate of the money supply that the government has been delivering rather than the low rate that it has been promising. The inflation rate will rise, and the rapid growth of the money supply will serve merely to validate the higher inflation rate. It will no longer stimulate output and employment.[2]

In this particular example and a larger class of models, the government is punished for trying to "surprise" the private sector. It loses its reputation for making credible promises and is stuck with a higher inflation rate. But it is hard for a government to make perfectly credible promises. It is sovereign and cannot precommit itself irrevocably. It can try to tie its own hands but cannot be kept from untying them. To acquire a good reputation for keeping its word, a government must foreswear temptation completely. It must refuse to make any promise that can generate conditions under which the government will want to break its word.[3]

The force of this argument, however, depends on three assumptions. (1) The economic environment is one in which the private sector makes binding bargains about wages and prices, or other irrevocable commitments. (2) The government can and should make promises about its own behavior, to facilitate planning by

the private sector. (3) The "game" played by the government vis a vis the private sector is the only game in town.

The assumption about binding bargains is unexceptional. In fact, the resulting stickiness of wages and prices is the central reason for wanting to stabilize nominal exchange rates. If wages and prices were completely flexible, nominal and real rates would not move together. But this sort of stickiness does not prevail in financial and foreign-exchange markets, where commitments can be covered or reversed instantaneously. It is the volatility of private behavior, not its rigidity, that poses the main problem for exchange-rate policy.

The case for predictable behavior by governments is equally hard to challenge but has be qualified in several ways. First, governments should not promise more than they can safely expect to deliver. They should not court the risk of involuntary reneging.[4] Second, governments may need to keep markets guessing by creating uncertainty about their tactics. This need for tactical flexibility is not necessarily inconsistent with the need for predictable policies. It is possible to pursue a stable course in respect of the money supply, for example, without letting the bond market know in advance the precise size and timing of open-market operations, or to pursue exchange-rate stability without letting the foreign-exchange market know whether there will be intramarginal intervention.

Furthermore, governments cannot be rigidly predictable in an uncertain world. If they were the only source of uncertainty facing the private sector, they could provide economic stability by following perfectly predictable policies. When governments and the private sector are both plagued by uncertainties, perfectly

predictable policies can cause instability. A doggedly determined effort to follow such policies despite an unexpected change in circumstances will undermine a government's reputation for good sense by more than a change in policy will undermine its reputation for good faith. A strong commitment to exchange-rate stability, for example, must not ossify into a rigid commitment to exchange-rate fixity. Real exchange rates must change when real shocks alter the underlying economic situation, and realignments of nominal rates may be the best way to change them. It would be possible in principle to formulate rules for changing the rules--to list in advance the conditions in which realignments would take place. But no such list can be complete. The utterly unexpected is almost inevitable.[5] Governments need to agree in advance on processes for changing the rules but cannot be expected to agree in advance on rules for changing the rules.

In the Barro-Gordon model, there is just one game going on; the government makes promises to influence the private sector. Therefore, the government cannot be punished severely for failing to keep its word. At worst, it can lose its ability to talk down the inflation rate. In practice, the government is playing many games simultaneously, including the all-important political game. If it starts to cheat on <u>any</u> player, <u>all</u> of them can punish it. In fact, they can choose a new government at the next election. The inconstancy of democratic politics is often cited as reason for distrusting a government's promises. It cannot bind its successor. But the democratic process may work the other way, because every government wants to be its own successor. (Furthermore, a newly elected government will want to earn a reputation

for reliability and is likely to honor inherited commitments u[illegible] less they are fundamentally inconsistent with its basic aims.)

In an international context, moreover, governments can commit themselves more firmly, because the costs of cheating are higher. A government can hope to surprise the private sector from time to time without damaging its reputation. It cannot renege on its promises to other governments without impairing its ability to make more bargains with them. This is particularly important for the governments of the major industrial countries, because they must cooperate in many matters. They need to maintain credibility not merely to cooperate in exchange-rate management, but in other economic, political, and strategic domains.

My earlier warnings about self-imposed rules continue to apply, even to rules adopted collectively. The rules will start to lose their force when policies objectives change, because governments will have less incentive to uphold them. But they will be more durable when they are multilateral, because governments must agree to loosen or abandon them, and they are less likely to abuse them by springing collective surprises on the private sector. They will be held back by the government least willing to ruin its reputation for keeping its policy promises.

What Markets Have Known

Bearing these issue and arguments in mind, let us examine four models for exchange-rate management, to see how they have handled the problem of predictability. What have markets known about the governments' rules?

Under the Bretton Woods System, the market knew the parities or central rates, the width of the band around them, and the na-

ture of the governments' commitment to defend them. The edges of the band were hard, and intervention was thus mandatory. The market did not know whether governments would engage in intramarginal intervention. It did not know when central rates would be realigned. But it came to learn that changes in central rates would be postponed for as long as possible and that they would be large compared to the width of the band, allowing the market to make one-way bets. Experience also taught the market to distrust official promises that exchange rates would not change.

The answers are the same under the European Monetary System, but the lessons of experience are rather different. Realignments have been smaller and more frequent and have been harder to forecast, because they have not always been triggered by speculative pressures--the market's one-way bets. In fact, the realignment of January 1987 is the only one usually cited has having been driven mainly by speculative pressures.[6]

Under the Louvre Accord of 1987, markets knew nothing more than the authorities told them in the communiqué--that nominal exchange rates prevailing at the time were broadly consistent with the "fundamentals" and that the authorities would endeavor to stabilize them for as long as they continued to be consistent with the underlying situation. The market did not know the width of the band, which means that it could not know how hard the margins were or the methods to be used to defend them. But the market came to attach much more precision to the Louvre Accord. It claimed to know the central rates and the width of the band around them, and that the band was rather hard.[7] The Louvre Accord was seen as target-zone arrangement with a narrow band and all but mandatory intervention. When market commentary began to

question the durability of the Louvre Accord, it was talking about these arrangements, and governments did not reject or try to amend the market's interpretation.

The market would not know much more under Williamson's target-zone proposal than under the Louvre Accord. It would know the central rate for each effective rate, but there would be no central rate for any pair of currencies. It would also know the band for each effective rate but not for any bilateral rate. And it would not be much help to know the bands for the effective rates, because they would be soft. Intervention would not be mandatory. The market would know somewhat more about the size and timing of realignments, as these would occur automatically to offset differences in national inflation rates. But it could not predict the additional realignments aimed at altering real exchange rates. We cannot know what the market might learn from experience but can be sure that it would try to discover how governments interpreted their obligations--the softness of the bands in practice and the tightness of the governments' commitment to coordinate interest-rate policies.

The EMS rules are far more transparent than those of the Louvre Accord and those proposed by Williamson, and it might be possible to make them even clearer by telling the market more about realignments. Central rates might be realigned at regularly stated intervals to offset differences in national inflation rates. Some governments have done this from time to time, and a few have even gone further. They have announced in advance a schedule of small devaluations with a view stabilizing expectations about the outlook for inflation. But these experiments have not been too successful, because the governments have tended to

underestimate the inertial or self-perpetuating character of the inflationary process. Their currencies have become increasingly overvalued, and they have been compelled to abandon their plans and devalue their currencies sharply.

What Markets Should Know

Experience under the Louvre Accord illustrates vividly the problems of trying to manage exchange rates by imprecise, opaque arrangements. Criticism of those arrangements has focused chiefly on the "wrongness" of the central rates and the "breakdown" of policy coordination.[8] Both objections are partly valid but neglect the other important defect of the Louvre Accord.

By the time of the Louvre Accord, the depreciation of the dollar had reversed most of the earlier appreciation. Yet many economists thought that the dollar should fall further to rectify the U.S. current-account deficit (and some continued to take that view in 1988, despite the additional depreciation after the October stock-market crash). But this does not condemn the Louvre Accord. Recall the point made in Chapter 3 about the economic situation in 1979, when the EMS came into being. There were strong reasons for believing that the initial exchange rates would have to change, and that is what happened thereafter. The EMS proved to be viable because the member governments developed procedures and criteria for realigning central rates in a timely way.

One realignment appears to have taken place under the Louvre Accord. (It is hard to know for certain without knowing the central rates.) But the peculiar conditions that led to the Louvre Accord militated against flexibility. It came into being because governments were trying to persuade the market that there was no need for the dollar to fall further, and the governments' quest

for credibility locked them into an excessively rigid stance. This risk attends any agreement to stabilize exchange rates. The dynamics of the game between governments and markets leads to confusion between the defense of the basic policy objective and of particular rates.

The exchange rates prevailing early in 1987 might have been sustainable had they been supported by changes in domestic policies--a large cut in the U.S. budget deficit matched in part by German and Japanese measures to stimulate aggregate demand. Performance fell short of these objectives, but the shortfall did not constitute a breakdown of policy coordination. Governments did not renege on their promises. They failed to promise enough. The policy commitments in the Louvre Accord were not new or more ambitious than those the governments had made before, collectively and unilaterally. Figure 4.1 compares them to the declarations made in the Plaza Communiqué. They are not very different.

More ambitious policy changes might have made it possible to stabilize exchange rates in 1987. Conversely, changes in exchange rates would have made it less important for governments to alter their policies. But the Louvre Accord was in jeopardy from the start because it was insufficiently transparent. The governments tried to conserve their credibility by being deliberately vague and avoiding promises they might not be able to keep, but they courted two other risks.

On the one hand, imprecise commitments like those in the Louvre Accord lead to disagreements among the governments themselves, which undermine the market's confidence in the governments' commitments. That is what happened in October 1987, on the eve of the stock-market crash, when the U.S. Secretary of the

doing in the foreign-exchange market is much more important than what they are saying or doing about interest rates or tax rates. The reaffirmation of the Louvre Accord in December 1987, after the stock-market crash, contributed less to the subsequent stability of exchange rates than the sudden, forceful, and concerted intervention that took place in January 1988.

Krugman (1988c) makes a similar point. He uses a simple but elegant model to show how a hard band can modify exchange-rate behavior even when the market's expectations are based in part on economic fundamentals, rather than irrational moods or fads. If the market believes that the band will be defended firmly, the exchange rate will move more slowly within the band in response to a change in fundamentals that would have driven a freely floating rate beyond the band. Governments are not relieved of the need to alter their policies when the change in fundamentals appears to be permanent. A long-lasting change in the fundamentals will take the exchange rate to the edge of the band eventually and thus test the governments' credibility. When their commitment is credible, however, there is less volatility within the band and more time to adopt new policies. There is the obvious risk that time bought will be time wasted, and the slower movement of the exchange rate may even obscure the need for action.[9] But those dangers arise with a soft band too, which allows even more room for procrastination.

Krugman's result helps to explain why pegged exchange rates have tended to remain well within their bands for very long periods, showing very little short-term volatility compared to floating rates. They did this most of the time under the Bretton Woods System and have continued to do so under the EMS. Some of

Figure 4.1 Declarations on Fiscal Policies in the Plaza Communique and Louvre Accord

The Plaza Communique (September 22 1985):

The United States Government will ... [continue] efforts to reduce government expenditures as a share of GNP in order to reduce the fiscal deficit ... [and implement] fully the deficit reduction package for fiscal year 1986. This package ... will not only reduce by over 1 percent of GNP the budget deficit for FY 1986, but lay the basis for further significant reductions in the deficit ...

The ... German economy is already embarked on a course of steady economic recovery based increasingly on internally generated growth ... The priority objective of fiscal policy is to encourage private initiative and productive investments and maintain price stability ... [The] Federal Government will continue to reduce progressively the share of the public sector in the economy through maintaining firm expenditure control. The tax cuts due to take effect in 1986 and 1988 form part of the ongoing process of tax reform and reduction which ... will continue in a medium-term framework.

The ... Japanese economy is in an autonomous expansion phase mainly supported by domestic private demand increase ... Fiscal policy will continue to focus on the twin goals of reducing the central government deficit and providing a pro-growth environment for the private sector.

The Louvre Accord (February 22, 1987):

The United States Government will pursue policies with a view to reducing the fiscal 1988 deficit to 2.3 percent of GNP from its estimated level of 3.9 percent in fiscal 1987 ... [The] growth in Government expenditures will be held to less than 1 percent in fiscal 1988 as part of the continuing program to reduce the share of Government in GNP ...

The Government of the Federal Republic ... will pursue policies to diminish further the share of public expenditures in the economy and to reduce the share of public expenditures in the economy and to reduce the tax burden ... with a comprehensive tax reform aimed at reinforcing the incentives for private-sector activity and investment. ... In addition, the Government will propose to increase the size of the tax reductions already enacted for 1988.

The Government of Japan will follow monetary and fiscal policies which will help to expand domestic demand and thereby continue to reducing the domestic (sic) surplus. The comprehensive tax reform, now before the Diet, will give additional stimulus to the vitality of the Japanese economy. ... A comprehensive economic program will be prepared after the approval of the 1987 budget by the Diet, so as to stimulate domestic demand ...

Treasury, James Baker, objected bluntly to an increase in German interest rates. On the other hand, imprecise agreements tempt the market to draw up its own version of the rules, then to test the governments' commitment to them. When the governments fail to behave as expected, the market does not revise its own inferential version of the rules but accuses the governments of backing down.

Williamson's target-zone proposal is open to the same objection. The bands are not well designed to stabilize exchange-rate expectations and too wide for that purpose. The market is concerned with bilateral exchange rates, not with effective rates. And the bands are too soft to discourage the market from testing the governments' intentions.

Those who believe that markets are capable of taking a long view and interpreting new information efficiently criticize the Louvre Accord for being too vague about monetary and fiscal policies, not about the width and hardness of the bands. They might therefore endorse the Williamson-Miller framework, which is not particularly clear about the governments' obligations concerning intervention but much more explicit about their policy obligations. But markets have not been very good at taking the long view, and they might have other troubles with the Williamson-Miller framework. Lags in the policy-making process are bound to obscure the strength of the governments' commitment to that framework, and the obscurity would be compounded by the shortage of policy instruments emphasized in Chapter 3; governments must compromise among objectives rather assign each policy instrument to a clearly defined policy target.

Rules for the conduct of monetary and fiscal policies cannot be decisive for exchange-rate expectations. What governments are

of their monetary policies and sought to reinforce the point by using intramarginal intervention to keep exchange rates from reaching and resting at the edges of their bands:

> On the one hand, the flexibility provided by the fluctuation margins was regarded as a cushion to absorb ... external shocks without the need for immediate changes in basic policies or central rates. Full use of the fluctuation margins would also help to limit exchange market intervention and thus avoid some of its potentially undesirable consequences. On the other hand, there are arguments in favor of keeping the exchange rate stable ... [The] authorities hope to influence market sentiments and exchange rate expectations by showing determination and by preventing the building up of a momentum for exchange rate movements. ... [The] latter view has gained favor, and a number of EMS central banks have adopted a strategy of keeping their exchange rates well within the band of the EMS and minimizing movements against key currencies (Ungerer, et al., 1987, p. 5).

This approach, however, makes it harder to keep the market from placing one-way bets when realignments are expected, and the validity of this objection is receiving more attention. It was acknowledged formally in the Basle-Nyborg agreement of 1987, liberalizing EMS credit arrangements.[13]

Limitations on capital mobility have also played a role in combating speculative pressures. France and Italy have used capital controls (and Italy tightened them sharply in 1987 because of speculation against the lira).[14] Belgium relies on dual exchange rates for current and capital transactions. Belief that these have been important in limiting capital outflows explains why so many are concerned about the viability of the EMS as 1992 approaches and capital controls must be dismantled. But another feature of the EMS may have been more important than capital controls in limiting speculative pressures. The Deutsche mark is the only world-class currency in the EMS, and it has been the strongest currency for most of the last decade.

this short-term stability can be ascribed to intramarginal intervention. But it has not been frequent enough to explain the whole phenomenon. Most of it must be ascribed to the credibility of the hard band.[10]

Summing Up

The rules for exchange-rate management should be as transparent as possible. That is the way to maintain credibility, not by studied ambiguity, which breeds distrust and disagreement.

The need to realign exchange rates periodically argues in favor of wide bands, so that central rates and market rates will not always move together and speculators cannot make one-way bets. But the need to stabilize exchange-rate expectations argues for narrow bands. The conflict between these needs can be resolved in principle by making realignments small and frequent. But that would be difficult politically for the G-7 governments. Therefore, the conflict must be resolved by adopting wider bands than those used in the EMS and relying on the hardness of the bands to stabilize exchange-rate expectations. Hardness is more important than narrowness for this particular purpose.

If governments are not prepared to move in this direction, they may have to retreat from their present stance and be content with episodic management. There may be no durable half-way house.

Episodic management can probably flatten exchange-rate movements by bursting speculative bubbles or shaking the market's confidence in its expectations. Experience suggests, however, that decisions to engage in episodic management are taken far too tardily. When exchange-rate stability disappears from the short list of policy objectives to which governments subscribe continuously, they must agree to reinstate it, and that can be diffi-

cult. It took about three years to persuade the United States that something must be done about the strong dollar. Furthermore, a continuing commitment to exchange-rate stability is likely to be more effective than a sudden flurry of concern in mobilizing domestic political support for the appropriate policy changes.

Capital Mobility, Crises, and Controls

These strong conclusions are based in part on the reading of two stories--the history of successful stabilization in the EMS and the less happy history of stabilization by the G-7 governments. Hence, it is necessary to look more closely at the history of the EMS. To what extent has its success been due to special circumstances?

Part of the answer was given in Chapter 3, which identified some of the circumstances that have made it possible for EMS members to realign exchange rates frequently and speedily, without always waiting for speculative pressures to force their hand. But another question has to be answered. Why have speculative pressures been so small, compared to those that bedeviled the Bretton Woods System? Shouldn't they be much larger now, since capital mobility appears to be much higher?

Under the assumptions usually adopted to model exchange-rate crises, the governments that suffer them ought not to complain about them. They richly deserve what they get. In the simplest crisis model,[11] the government adopts a monetary policy that is fundamentally inconsistent with its pegged exchange rate. It creates more money than the public wants to hold and thus starts to lose reserves. The market watches the situation, comparing the government's dwindling reserves with the size of the speculative attack that the market itself will mount as soon as it becomes

manifestly clear that the domestic currency would depreciate if the government ceased to defend it. When reserves fall below that critical level, the market pounces, the government loses the rest of its reserves, and the market is vindicated. The domestic currency must be allowed to float and does indeed depreciate. Speculative pressures do not build up gradually. The government is given no warning to change its policies. One day, it has enough reserves to defend the exchange rate for some time to come. The next day, it has none.

In more elaborate models,[12] speculative pressures can build up slowly, because expectations are not unanimous nor held with certainty, and the government is given time to reassess its policies. But there is another possibility. The market can misjudge the situation badly but be completely vindicated because it has made a self-fulfilling prophesy. It can predict the "collapse" of a pegged exchange rate or, less catastrophically, an exchange-rate realignment, which would not have taken place if the market had not predicted it. Speculative runs on a pegged exchange rate can come out of nowhere, just like speculative bubbles under a floating rates.

The simple crisis model can tell us what to look for when trying to decide why the EMS has not been plagued by exchange-rate crises. Crises are likely to arise when the market can persuade itself to predict a realignment, when a large amount of capital can be expected to move in response to that prediction, and when the governments' reserves are small compared to the stock of footloose capital.

European governments have tried to discourage the market from predicting realignments. They have stressed the convergence

of their monetary policies and sought to reinforce the point by using intramarginal intervention to keep exchange rates from reaching and resting at the edges of their bands:

> On the one hand, the flexibility provided by the fluctuation margins was regarded as a cushion to absorb ... external shocks without the need for immediate changes in basic policies or central rates. Full use of the fluctuation margins would also help to limit exchange market intervention and thus avoid some of its potentially undesirable consequences. On the other hand, there are arguments in favor of keeping the exchange rate stable ... [The] authorities hope to influence market sentiments and exchange rate expectations by showing determination and by preventing the building up of a momentum for exchange rate movements. ... [The] latter view has gained favor, and a number of EMS central banks have adopted a strategy of keeping their exchange rates well within the band of the EMS and minimizing movements against key currencies (Ungerer, et al., 1987, p. 5).

This approach, however, makes it harder to keep the market from placing one-way bets when realignments are expected, and the validity of this objection is receiving more attention. It was acknowledged formally in the Basle-Nyborg agreement of 1987, liberalizing EMS credit arrangements.[13]

Limitations on capital mobility have also played a role in combating speculative pressures. France and Italy have used capital controls (and Italy tightened them sharply in 1987 because of speculation against the lira).[14] Belgium relies on dual exchange rates for current and capital transactions. Belief that these have been important in limiting capital outflows explains why so many are concerned about the viability of the EMS as 1992 approaches and capital controls must be dismantled. But another feature of the EMS may have been more important than capital controls in limiting speculative pressures. The Deutsche mark is the only world-class currency in the EMS, and it has been the strongest currency for most of the last decade.

Suppose that the foreign-exchange market comes to expect a revaluation of the Deutsche mark vis a vis the French franc. Frenchmen will sell francs for Deutsche mark. But they are the only large holders of francs. Anyone else wanting to speculative against the franc must borrow francs to sell them. This limits the volume of speculation and turns it around rapidly; Frenchmen need their francs for domestic transactions, and others must repay their debts.[15] Now suppose that Margaret Thatcher changes her mind and Britain becomes a full member of the EMS, bringing in another world-class currency. What will happen when the foreign-exchange market comes to expect a revaluation of the mark vis a vis the pound? There are many more footloose holders of sterling than footloose holders of francs, and a much larger amount of capital would move from London to Frankfurt than has typically moved from Paris to Frankfurt. Furthermore, this would not be borrowed money, though that would move too, which means that it might not return speedily to London.

It is impossible to quantify the importance of this built-in limitation on capital mobility within the EMS. But one point is distressingly clear. There is no such limitation on capital mobility in the outside world, among the most important G-7 currencies. Four of them, indeed, are world-class currencies.

But another feature of the EMS has not yet been mentioned, and it is more important than any of the others. A self-fulfilling crisis cannot take place unless the market can commit larger sums of money than governments can mobilize. The market must be able to swallow their reserves. That cannot happen in the EMS, where governments can mobilize infinite amounts by drawing on reciprocal credit facilities.[16] Before the Basle-Nyborg agreement

of 1987, those facilities were not available for financing intra-marginal intervention, and they were not used extensively.[17] But they are there when needed, and the market knows it.

Can the G-7 countries replicate arrangements of this sort? And what more must they do to modify reserve arrangements in order to manage exchange rates systematically? These issues are examined in the next chapter, which will argue that they may be the most obdurate issues standing in the way of exchange-rate management.

NOTES

1. Persson (1987) provides an introduction and critique.

2. Taken to its logical conclusion, the Barro-Gordon model restates the fundamental proposition of the "new" macroeconomics, that monetary policies cannot affect the real economy, but casts it as a long-run tendency. If a government protects its reputation by keeping its promises, it can never alter output or employment. If it risks its reputation by breaking its promises, it will gradually lose its ability to surprise the private sector. Rogoff (1985) uses the same framework to show why international policy coordination can be counterproductive, but his results have been challenged by Currie, et al. (1987) and by Carraro and Giavazzi (1988).

3. In technical terms, the government must constrain itself to choose among the subset of future policies that are completely "time consistent," meaning that the policies promised today must be no less attractive tomorrow, when it comes time to implement them. The government not be seen to make promises that affect the behavior of the private sector in ways which make it less attractive for the government to keep its promises.

4. This term is used by Putnam and Bayne (1987), who criticize economists for worrying too much about cheating in game-theoretic situations and treating it as one of the main obstacles to international cooperation. If there is too little cooperation, they say, it is because governments want to keep their promises and worry about their ability to do so, not because they fear that their partners will cheat.

5. Bryant (1987) has made the same point about the problems of time consistency and reneging. All policy announcements, he argues, are contingent on forecasts about the state of the world, explicitly or implicitly, which makes it impossible to distinguish in practice between reneging on previous promises and adapting to new circumstances. See also Kenen (1987).

6. See, e.g., Gros and Thygesen (1988).

7. Writing in <u>The Observer</u> on October 4, 1987, William Keegan reported that "these ranges are believed to be Yen 139 to Yen 153 to the dollar (central rate Yen 146) and DM1.75 to DM1.90 to the dollar (central rate DM1.825)." Williamson and Miller (1987, p. 67) warned that the bands were too narrow and that the central rates were probably inappropriate, but they were optimistic about the viability of the underlying arrangement. "The soft buffers of the Louvre reference ranges, the apparent pro tem. quality of the agreed targets, and the failure to publish the ranges, will all make it relatively easy to beat a graceful retreat when the time comes."

8. See, e.g., Krugman (1988b) and Feldstein (1987).

9. Krugman is alert to these dangers; see Krugman (1987), where he describes the extended time in which the rate stays in its band as a "target zone honeymoon."

10. At times, governments have been the victims of their own credibility. In the early 1960s, the U.S. authorities intervened on the forward foreign-exchange market to influence the profitability of capital movements. But they could not drive the forward rates beyond the spot-rate bands, because those bands were hard and were not expected to shift.

11. See Krugman (1979).

12. See, e.g., Obstfeld (1984), Flood and Garber (1984), and Grilli (1986). For applications to the EMS, see Driffill (1988) and Obstfeld (1988). The point stressed in the text below, that the market can generate a self-fulfilling crisis without any help from the government, is made in Obstfeld (1986).

13. See Masera (1987) and Mastropasqua, et al. (1988).

14. On the effectiveness of these controls, see Giavazzi and Giovannini (1987), Artis and Taylor (1988), and Mastropasqua, et al. (1988). These studies compare the behavior of onshore and offshore interest rates for assets denominated in a common currency. In the absence of capital controls, the interest rates should be the same on comparable assets, but they have differed systematically in the French and Italian cases while becoming more alike in the U.K. and Japanese cases, where capital controls have been eliminated.

15. The rapid reversal of capital flows has been reflected markedly in movements of reserves; see Melitz and Michel (1988).

16. For details, see Micossi (1985) and Masera (1987).

17. From March 1979 through June 1987, gross intervention at the margins amounted to $58.3 billion, and total intervention in EMS currencies amounted to $219.4 billion. Drawings on the very short term financing facility (VSTF) amounted to $42.2 billion. Therefore, they financed 72 percent of intervention at the margins but only 19 percent of total intervention in EMS currencies. (Mastropasqua, et al., 1988, Table 3).

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5 INTERVENTION AND RESERVES

The Issues

To put hard bands around exchange rates, governments must be prepared to intervene on foreign-exchange markets. Intervention is always possible for a government that wants to prevent its currency from appreciating; it has merely to purchase foreign currency and pay for it by issuing more of its own currency. If it does not want its money supply to grow, it will try to sterilize its intervention, and this will be difficult when foreign and domestic assets are close substitutes. But problems on this score do not call into question the feasibility of intervention.

Intervention is not always possible for a government that wants to prevent its currency from depreciating; it has to purchase its own currency and pay for it with foreign currency, and it cannot issue foreign currency. It must hold foreign-currency reserves or have reliable access to them. Access can include the right to buy foreign currencies from foreign governments using other acceptable assets such as gold, SDRs, or ECUs, and the right to borrow foreign currencies from governments or international institutions such as the IMF.[1]

The Articles of Agreement of the IMF do not mention currency reserves. The version that emerged from the Bretton Woods Conference of 1944 reflected the expectation that governments would hold their reserves in gold and that the United States would buy and sell gold for dollars to make them available as needed. The resources of the IMF itself consisted of gold and national currencies deposited by members, and they could draw on those re-

sources to supplement their own reserves. The Articles of Agreement were amended in 1969 to provide for the creation of Special Drawing Rights. The SDR was supposed to become" the principal reserve asset in the international monetary system" (Art. XXII), and all references to gold were expunged (except those restricting the use of gold or relating to the disposition of the Fund's own holdings).

From the earliest years following World War II, however, the dollar has been the principal reserve asset, and that is still true today. Indeed, the dollar continues to be the most important international currency. Its domain has been shrinking slowly, but more slowly than the economic dominance of the United States. The further reform of exchange-rate arrangements, however, may call for significant changes in reserve and reserve-credit arrangements involving a further reduction in the role of the dollar as a reserve asset, which may in turn reduce its relative importance as an international currency.

Changes in reserve arrangements are needed for two purposes. First, the supply of currency reserves must be sufficiently elastic in the short run to combat speculative pressures but sufficiently inelastic in the long run to keep governments from using reserves to finance long-lasting balance-of-payments deficits. The market must know that speculative pressures cannot force governments to realign exchange rates. But governments must know that they cannot postpone adjustment indefinitely--and each one must be confident that its partners know it. Second, reserve arrangements must be made more symmetrical. Present arrangements are asymmetrical in allocating exchange-rate risks and, more fun-

damentally, in putting appropriate pressures on governments to modify their policies.

The Dollar as an International Currency

The various tasks of an international currency are listed in Figure 5.1, where they are cross-classified by function and sector.[2] The dollar has done all of them, although its importance has varied from task to task.

The use of the dollar as a unit of account is, perhaps, its least important role. It was never as large in the private sector as casual observers believed, and it has declined in the official sector.

Research on the use of the dollar in international trade was begun by Grassman (1976), who found that the Swedish kronor is the currency most often used to invoice Swedish exports. The dollar came next but far behind. Subsequent research on other industrial countries revealed a similar pattern but assigned even less importance to the dollar. The exporter's currency is used more often than any other to invoice a country's exports, but the importer's currency comes next, ahead of the dollar.[3] Sharrer (1980) found that 81 percent of German exports to EC countries were invoiced in marks, 17 percent in other EC currencies, and only 2 percent in dollars. In trade with developing countries, by contrast, the dollar is more important than the importing country's currency, and the developing countries' currencies are rarely used to invoice their own exports. In fact, most exports of primary products, including oil, are invoiced in dollars, because they are priced in dollars on international markets.

The dollar used to be the principal unit of account in the official sector. Under the Bretton Woods System, most countries

Figure 5.1 Uses of the dollar as an international currency

Function	Private Sector	Official Sector
Unit of account	Currency used to invoice trade	Currency used to define central rates
Means of payment	Vehicle currency in foreign-exchange markets	Intervention currency in foreign-exchange markets
Store of value	Currency in which deposits, loans, and bonds are denominated	Currency in which reserves are held

pegged their currencies to the dollar and used it to define their central rates. But the pattern is different now. The EMS countries use the ECU to define their central rates, and many developing countries use their own currency "baskets" or the SDR. In 1974, just after exchange rates began to float, 62 percent of the developing countries pegged their currencies to the dollar, 24 percent pegged to other currencies, and 14 percent did not peg their currencies (Kenen, 1983, Table 13). By 1987, the distribution had changed markedly:[4]

Pegged to the dollar	30
Pegged to other currencies	15
Pegged to the SDR	6
Pegged to other currency baskets	16
Other exchange-rate arrangements	33

The decline in this particular use of the dollar, however, is due directly to the change in exchange-rate arrangements, not the attractiveness of some other currency.

The dollar is far more important as a means of payment in the foreign-exchange market. It is indeed the dominant currency in foreign-exchange trading. In London, for example, 30 percent of all foreign-exchange transactions involve dollar purchases or sales of sterling, 67 percent involve dollar purchases or sales of marks, yen, and other currencies, and only 3 percent involve other pairs of currencies (e.g., sterling purchases or sales of marks or yen). Similar patterns obtain in New York and Tokyo.[5]

It is hard to obtain quantitative evidence on the use of the dollar for official intervention, but anecdotal evidence suggests that it is still dominant in this respect too, because it is the vehicle for foreign-exchange trading.[6] There is only one important exception. The EMS countries use EMS currencies for mandatory intervention and for some intramarginal intervention as

well. Gross intervention by EMS countries amounted to $477 billion from the founding of the EMS through June 1987. Dollar intervention accounted for 52 percent, mandatory intervention in EMS currencies for 12 percent, and intramarginal intervention in EMS currencies for 36 percent.[7] The figure for dollar intervention includes both intervention designed primarily to affect the value of the dollar (e.g., intervention under the Plaza and Louvre agreements) and intramarginal intervention to affect EMS exchange rates.

The largest changes in the use of the dollar have occurred in its role as a store of value. The trend on the private side is illustrated by developments in the Eurocurrency and Eurobond markets. The trend on the official side is illustrated by the changing composition of currency reserves.

In 1986, about 65 percent of banks' foreign-currency claims on nonresidents were denominated in U.S. dollars, compared with averages of 69 percent in 1976-80 and 73 percent in 1971-75. The dollar is still the most important currency in the Eurocurrency market but less important than it was a decade ago.[8] In 1984-86, $493 billion of new bonds and other instruments were issued in international markets, of which $106 billion were issued by U.S. institutions. Dollar issues accounted for 58 percent of the total and for 54 percent when U.S. issues are excluded. In 1979-81, when new issues totaled $64 billion, dollar issues accounted for fully 70 per cent of the total and for 64 per cent when U.S. issues are excluded.[9] The share of the dollar has fallen in these markets too.

The dollar was the dominant reserve currency for many years. In 1976, it accounted for almost 80 percent of total foreign-

currency reserves (see Table 5.1). At about that time, however, central banks and governments began to diversify. The developing countries moved first and faster; their dollar holdings amounted to 73 percent of their currency reserves in 1976, fell to 57 percent by 1980, and rose a bit thereafter, reaching 60 percent in 1986. The developed countries started later and moved more slowly; their holdings amounted to 87 percent of their currency reserves in 1976, fell to 78 percent in 1980, and continued to fall thereafter, reaching 71 percent in 1986. (The decline is smaller when the figures are adjusted to exclude U.S. reserves, which cannot be held in dollars. The number for 1976 is unchanged, because U.S. currency holdings were negligible, but the numbers for 1980 and 1986 rise to 81 and 76 percent, respectively.)

Some of the fluctuations shown in Table 5.1 reflect the effects of exchange-rate changes rather than changes in holdings. In 1986, for example, the depreciation of the dollar just about cancelled the increase in the volume of dollar holdings, and the share of the dollar dropped slightly as holdings of other currencies rose. But the longer-term trend is unmistakable evidence of gradual diversification.

The more rapid diversification by developing countries reflects a basic difference between them and the major industrial countries. Small countries can diversify more or less freely, just like private institutions, and one would expect their behavior to reflect the variables that usually influence portfolio selection (although attempts to simulate their asset choices using standard portfolio models have not been too successful). The major industrial countries are constrained in two important ways. First, they cannot hold their own currencies as reserve assets.

Table 5.1 National currencies held in official reserves (percent of total foreign-currency holdings at end of year)

Currency	1976	1978	1980	1982	1984	1986
U.S dollar	79.6	76.0	67.3	70.7	69.5	66.6
Deutsche mark	7.0	10.9	15.2	12.7	12.6	14.8
Japanese yen	0.7	3.3	4.4	4.7	5.7	6.9
Pound sterling	2.0	1.7	3.0	2.5	3.0	2.4
Swiss franc	1.4	2.1	3.2	2.8	2.1	1.6
Other and unspecified	9.3	6.0	6.9	6.6	7.2	7.8

Source: International Monetary Fund, Annual Report (various years). Total and dollar reserves include the dollar equivalents of the European Currency Units (ECU) issued against dollars (ECU issued against gold are excluded completely).

Japan cannot hold yen; the United States cannot hold dollars. Second, they are constrained by their exchange-rate policies and those of their partners. Japan acquires dollars when it intervenes to keep the dollar from depreciating against the yen. It cannot swap them for Deutsche mark, however, without making it harder for Germany to keep the dollar from depreciating against the mark.

If allowed to continue for another decade, the diversification of currency reserves shown in Table 5.1 could produce a multiple reserve-currency system of the sort that some observers have favored for some time. They believe that it would reduce the influence of U.S. policies on the behavior of the world economy and limit the ability of the United States to exploit the reserve-currency role of the dollar. Both objectives may have merit but cannot be achieved by moving to a multiple reserve-currency system.

Reducing the role of the dollar as a reserve currency would not necessarily reduce its role in international financial markets, and the latter may be far more important in giving U.S. policies a disproportionate influence on the world economy. Furthermore, the ability of the United States to exploit its role as a reserve-currency country does not depend primarily on the share of the dollar in total currency reserves. It depends on the role of the United States in exchange-rate management. Unless that role is changed, along lines proposed later in this chapter, a further reduction in the share of the dollar as a reserve currency will merely concentrate the consequences of U.S. behavior on the rest of the G-7 countries. If central banks dissatisfied with U.S. behavior begin to shift from dollars to yen and the

Japanese authorities try to prevent the dollar from depreciating, the Japanese must take up the dollars that others want to shed. These switches, moreover, are most likely to occur precisely when the G-7 governments are called upon to cope with speculative pressures from the private sector.

A multiple reserve-currency system will merely amplify exchange-rate instability and complicate the task of exchange-rate management unless there are restrictions on the governments' freedom to shift from currency to currency.

Asymmetries and Tensions

It is not hard to explain why the dollar became the main international currency after World War II, without even invoking the size of the U.S. economy. It was the only transferable currency in the early postwar years and, therefore, the only available vehicle for foreign-exchange trading, which made it in turn the most convenient intervention currency. Furthermore, U.S. financial markets were not fenced off by capital controls, so foreigners could lend and borrow freely. Hence the dollar was an attractive reserve asset for official institutions and convenient store of value for other foreign asset holders. To which one must add, of course, the convertibility of the dollar into gold for foreign official holders and the strength of the dollar in terms of other currencies, backed up comparative price stability in the United States.

It is equally easy to explain why the various roles of the dollar have contracted unevenly. The convenience of using a vehicle currency in foreign-exchange trading explains why the market will choose only one, and why an established currency does not give way gradually to others.[10] Therefore, the dollar con-

tinues to be the vehicle currency and the most important intervention currency long after it has ceased to be equally important as an international unit of account or store of value. Furthermore, constraints on diversification have sustained the role of the dollar as a reserve currency. The major industrial countries cannot diversify freely because of their involvement in managing exchange rates.[11]

The uneven decline in the use of the dollar has intensified tensions arising from basic asymmetries produced by two features of the monetary system.

The first is a manifestation of the Nth country problem. Because there is only one exchange rate between two national currencies, it is always feasible and may be convenient for one of the two governments to refrain from intervening and leave that task entirely to the other. Joint intervention is not necessary technically even though it may be more effective tactically. Under the Bretton Woods System, then, the United States left to other governments most of the intervention required to stabilize the dollar. It was passive not only in respect of exchange-rate policy but also in respect of intervention.[12] Therefore, it did not hold large currency reserves but borrowed foreign currencies when it chose to intervene for tactical purposes. It drew on bilateral credit lines with foreign central banks and, on one occasion, issued foreign-currency bonds to German investors (the so-called Carter bonds of 1978).

The United States has intervened more actively in the last few years. It bought foreign currencies in 1980 and 1981 to slow down the appreciation of the dollar, and it did so again in 1985 as part of the joint effort by the G-7 governments to drive down

the dollar after the Plaza Communiqué. Its foreign-currency reserves rose from $3.8 billion at the end of 1979 to $17.3 billion at the end of 1986. In 1987 and 1988, moreover, the United States sold foreign currencies to arrest the depreciation of the dollar. From November 1987 through January 1988, for example, it sold $4.1 billion worth of Deutsche mark and yen, and its foreign-currency reserves had fallen to $11.8 billion at the end of February 1988. But the other G-7 governments have intervened much more heavily. Germany and Japan held $61.3 billion of foreign-currency reserves, mainly dollars, at the end of 1985; their holdings rose to $83.5 billion at the end of 1986 and to $145.9 billion at the end of February 1988.[13]

The second feature of the monetary system that contributes to asymmetry relates to the different effects of intervention on national money supplies. When the Bundesbank intervenes to support the dollar against the mark, it adds dollars to its assets and issues additional marks to pay for them. It must then act deliberately to sterilize its intervention; it must sell off other assets to withdraw the marks. But German intervention does not affect the U.S. money supply, because the Bundesbank invests its dollars in U.S. government securities rather than holding them with the Federal Reserve Bank of New York. In other words, the effects of intervention are sterilized automatically.*

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*If the Bundesbank held its dollars with the New York Federal Reserve Bank, it would transfer them from the commercial banks where they were deposited before it bought them, and this would reduce the U.S. money supply. To sterilize the effects of German intervention, the Federal Reserve would have to make an open-market purchase of U.S. government securities. By investing its newly acquired dollars in U.S. government securities, the Bundesbank compresses this process, but the securities end up in the hands of the Bundesbank, not the Federal Reserve.

A similar asymmetry can develop when the United States intervenes, because U.S. reserves are held partly by the Treasury, not the Federal Reserve, and some of them are held at foreign central banks, not in government securities. When the U.S. Treasury sells marks for dollars in order to support to the dollar, it uses the dollars to retire debt, and there is no effect on the U.S. money supply.[14] Once again, the effects of intervention are sterilized automatically. Furthermore, the marks it sells to buy the dollars may be transferred on the books of the Bundesbank, from the account of the U.S. Treasury to those of the German commercial banks that held the dollars initially, and this transfer is equivalent to issuing new money. The Bundesbank must act deliberately to sterilize U.S. intervention, just as it must act deliberately to sterilize its own.**

These institutional features of the system result in two asymmetries when intervention is required to support the dollar. First, the United States does not bear much of the exchange-rate risk. Germany, Japan, and other countries increase their dollar holdings by more than the United States reduces its foreign-currency holdings or adds to its foreign-currency debt. In effect, the United States is able to borrow in its own currency. Second, other countries face an increase in their money supplies that has to be offset deliberately and cannot always be offset fully.[15] But there is no such problem for the United States,

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**The mechanics are more complicated when U.S. intervention is conducted by the Federal Reserve or financed by drawings on central-bank credit lines. The foreign effects are the same as those described in the text, but the domestic effects are different. The dollars bought by the Federal Reserve are withdrawn from the U.S. money supply, and U.S. intervention is not sterilized automatically.

where the money supply does not fall because it is automatically insulated from other countries' purchases of dollars. Intervention does not inhibit monetary growth in the United States, and the balance-of-payments adjustment process has an inflationary bias.

The problem can be put more generally. When other governments acquire dollars and cannot exchange them for other reserve assets, the United States does not lose reserves. This is the "exorbitant privilege" to which President de Gaulle objected many years ago, and others have also objected to it. In the 1960s, American multinationals were accused of "buying up" Europe with dollars lend back to the United States by foreign governments, and the Pentagon was accused of using those dollars to finance the Vietnam war. These are simplistic accusations but not utter nonsense. The reserve-currency role of the dollar has allowed the United States more freedom to pursue its economic and political objectives. In the 1980s, moreover, the problem took a new form. Foreign governments objected strongly to the U.S. budget deficit but were obliged to finance and monetize a large part of it. In 1986 and 1987, foreign official purchases of U.S. government securities were much bigger than those of the Federal Reserve System.

The Plaza and Louvre agreements have made the monetary system a bit more symmetrical. The United States has been involved more actively in intervention. But it has done much less than others, partly because it has rather small reserves. At the end of 1987, it held less than $35 billion in foreign currencies and readily usable claims on the IMF, a sum only half as large as

German and Japanese purchases of dollars in 1987. But there are ways of raising more.

In the 1960s, the United States set up bilateral credit arrangements with foreign central banks, and they have been enlarged.[16] The swap lines with other G-7 countries currently total $21 billion, and those with Switzerland and the Bank for International Settlements (BIS) bring the amount close to $27 billion. Furthermore, the U.S quota in the IMF is nearly $20 billion, which means that it can draw about $5 billion almost automatically. And then there is the U.S. gold stock. The United States has 262 million ounces of gold, which it values at $11 billion. At current market prices, however, it is worth about $118 billion. If the United States tried to sell its gold, it would drive the price down sharply. But there are ways to turn some gold into other, more usable reserve assets at a price related to the current market price.

Renovation Rather than Reform

Let us return to the issues raised at the beginning of this chapter. How can reserve arrangements be made more symmetrical and sufficiently elastic in the short run to ward off speculative pressures?

It is tempting to draw up another ambitious plan for reforming the whole monetary system--to make the SDR "the principal reserve asset" and give the IMF a larger role in managing the system. But I have done that before,[17] and this not the time for launching such a plan. European governments are more interested in the evolution of the EMS and in the ECU than the SDR. The United States should be more interested in the exchange-rate re-

gime and in modest modifications of reserve arrangements to help it participate more fully in exchange-rate management.

Comprehensive reform, moreover, would require another amendment to the Articles of Agreement of the IMF, and that would require the consent of developing countries. But they would want to deal with many other issues--the conditionality of access to IMF facilities and a long-term solution to their own debt problem. Those issues have to be addressed, more urgently perhaps than the ones considered here, but this is an instance in which it may be unwise to put too many issues on one bargaining table.

Two steps can be taken quickly, however, without amending the Articles of Agreement. (1) Reserve supplies can be made more elastic in the short run by altering the terms of existing swap arrangements and adopting additional guidelines or rules for funding them over the long term. (2) Exchange-rate risks can be redistributed and U.S. reserves increased by reviving and extending a proposal made some years ago to establish a "substitution account" under IMF auspices.[18]

Swaps and Foreign-Currency Borrowing

The bilateral swap arrangements are similar in many ways to the very short-term credit facilities of the EMS, but there are two important differences. The EMS facilities are fully automatic and open-ended for purposes of mandatory intervention.[19] Furthermore, drawings on the EMS facilities can be rolled over automatically within certain limits, and they can be funded partially by using the longer-term credit facilities of the European Monetary Cooperation Fund (EMCF). Funding is not always necessary because speculative capital movements tend to reverse themselves, and it is not available unconditionally. The EMS facilities are

very elastic in the short run but less elastic in the long run, so as to deter abuse.

The G-7 governments may not be ready to follow these precedents completely--to make the bilateral swap arrangements open-ended and fully automatic. But doubling or tripling the present limits would have much the same effect. This sort of liberalization, however, would have to be accompanied by a more liberal agreement on funding. Otherwise, governments will hesitate to use the swaps more freely.

There are three ways in which a government can redeem short-term foreign-currency debt. It can draw on its foreign-currency reserves and SDR holdings. It can draw on its IMF quota. It can fund its short-term debt by issuing long-term debt to its creditors or directly to the public at large. The United States cannot make much use of the first and second methods. Its reserves are too small, and it cannot draw heavily on its IMF quota without obvious political embarrassment--which would probably discourage it from drawing on the swaps. But it can issue foreign-currency bonds. It issued the so-called Roosa bonds to foreign governments in the early 1960s and sold the so-called Carter bonds directly to German investors in 1978.

The United States has been urged repeatedly to issue foreign-currency debt as a way of reviving capital inflows to cover the trade and budget deficits. Foreign investors, it is said, are reluctant to buy more dollar-denominated bonds but would be eager to buy U.S. government securities denominated in marks and yen. Furthermore, the offer would be taken as a promise by the U.S. government to defend the dollar by making the necessary policy

changes, because a further depreciation would raise the cost of servicing the debt.[20]

Some of the enthusiasm for this proposal appears to reflect the markets' love of dealing in new instruments and deriving a menagerie of instruments from them--a whole new zoo of yencats and other animals. The proposal has also met with strong objections--one symbolic and the other substantive. The U.S. government owes much more to foreigners than Brazil or Mexico, but it has been able to borrow in its own currency. Having to borrow in foreign currency would be more embarrassing than having to draw heavily on the IMF. Furthermore, U.S. government bonds issued in marks or yen might be more attractive to American investors than to Germans or Japanese, and it would be difficult to turn them away. If Americans bought them, however, there would be no capital inflow to cover the trade deficit, and the whole exercise would be pointless. The Carter bonds of 1978 were sold only to German investors, and the German authorities helped to enforce that limitation. But the amounts involved were comparatively small.

This last objection suggests that foreign-currency bonds cannot be used to fund short-term debt when the dollar is weak; they will attract American investors. They can serve that purpose only after speculative pressures have subsided. But that would not greatly impair their usefulness if suitable guidelines were adopted permitting a debtor government to roll over its short-term debt or to issue long-term debt to creditor governments until the time is ripe for marketing debt directly to the public. Such guidelines should also permit a debtor to issue long-term debt to a creditor government if the creditor objects to the mar-

keting of debt in its domestic capital market, because it might "crowd out" the creditor's own borrowing. But creditor governments should usually favor the marketing of debt directly to the public, because it would sterilize the money-supply effects of the intervention financed initially by short-term borrowing.

A Substitution Account

A substitution account could make the monetary system more symmetrical by raising the readily usable reserves of the United States and reducing the exchange-rate risks already borne by other countries. How would it work?

Under arrangements proposed in 1979, when the subject was under discussion in the IMF, governments and central banks holding dollar balances would have deposited some of them with the IMF in exchange for an SDR-denominated claim. The claim could not have been used directly for intervention, because the foreign-exchange market does not deal in SDRs, but could have been sold to other participating governments in exchange for currencies. It was agreed in principle that the depositors would share with the United States the costs and benefits of the arrangement. Washington interpreted this to mean that any losses incurred by the account because of exchange-rate changes would be shared by the United States and the depositors.

The discussions broke down in 1980, however, when potential depositors rejected the American interpretation and the United States shifted its own position, proposing that losses be borne by the IMF itself, which would set aside some of its gold for that purpose. In fact, the whole proposal became less attractive as the dollar began to appreciate.[21] An American official was heard to remark that there is never a good time to reform the

monetary system. When the dollar is weak, the United States cannot exercise leadership. When the dollar is strong, no one else is interested.

The 1979 proposal would have reduced the exchange-rate risks borne by dollar holders but would not have raised U.S. reserves. A variant on that proposal would do both, and also cover losses that might have to be met if and when the account was liquidated. The United States would deposit gold. Other governments would deposit dollars. Both would obtain an SDR-denominated claim to be used as a reserve asset. A numerical example will help here.

Suppose that the account had been opened early in 1988, when the SDR was valued at about $1.35 and the market price of gold was about $450 per ounce. Suppose that the United States had deposited 90 million ounces of gold, about a third of its holdings, which was valued for this purpose at 70 percent of its market price. The United States would have been credited with 21 billion of SDR claims. The account, however, might have carried the gold at 95 percent of its market value, the equivalent of 28.5 billion SDRs. Suppose that other governments had deposited $81 billion of dollar balances, slightly more than 30 percent of their holdings in the United States. They would have been credited with 60 billion of SDR claims. The initial balance sheet of the account is shown at (A) in Figure 5.2. Its assets would have been worth 88.5 billion SDRs; its obligations to the participating countries would have totaled 81.0 billion; and it would have had capital worth 7.5 billion--a reserve against losses resulting from exchange-rate changes and changes in the price of gold.

Now look ahead to the time at which the account is liquidated. How far can the dollar fall before the capital is wiped out,

Figure 5.2 The balance sheet of the substitution account (in billions of SDR unless otherwise indicated)

A. Initial Situation:

Assets		Liabilities and Capital	
Gold at 95 percent of market price: 90 million ounces ..	28.5	SDR claims of participants:	
Dollar deposits at		United States	21.0
SDR price: $81 billion	60.0	Other governments	60.0
		Capital	7.5
Total	88.5	Total	88.5

Accounting prices:
- Dollar price of the SDR .... 1.35 dollar per SDR
- Dollar price of gold ..... 450.00 dollars per ounce
- SDR price of gold ..... 333.33 SDRs per ounce

B. After Dollar Depreciation but with Constant Dollar Gold Price:

Assets		Liabilities and Capital	
Gold at 95 percent of market price: 90 million ounces ..	26.1	SDR claims of participants:	
Dollar deposits at		United States	21.0
SDR price: $81 billion	54.9	Other governments	60.0
		Capital	--
Total	81.0	Total	81.0

Accounting prices:
- Dollar price of the SDR .... 1.475 dollars per SDR
- Dollar price of gold ..... Unchanged
- SDR price of gold ..... 305.508 SDRs per ounce

C. After Dollar Depreciation but with Constant SDR Gold Price:

Assets		Liabilities and Capital	
Gold at 95 percent of market price: 90 million ounces ..	28.5	SDR claims of participants:	
Dollar deposits at		United States	21.0
SDR price: $81 billion	52.5	Other governments	60.0
		Capital	--
Total	81.0	Total	81.0

Accounting prices:
- Dollar price of the SDR .... 1.543 dollars per SDR
- Dollar price of gold ..... 514.286 dollars per ounce
- SDR price of gold ..... Unchanged

forcing the United States and other participants to share the losses of the account? Much depends on the behavior of the gold price.

If the price of gold remained constant in dollars, the dollar value of the SDR would have rise from $1.35 to $1.475 per SDR to wipe out the capital of the account. In other words, the dollar would have to depreciate by more than 9 percent against the SDR and by nearly 14 percent against the other currencies that make up the SDR.[22] This result is shown at (B) in Figure 5.2. If the price of gold remained constant in SDRs, however, the dollar value of the SDR would have to rise to $1.543 per SDR to wipe out the capital of the account. The dollar would have to depreciate by more than 14 percent against the SDR and by more than 21 percent against the other currencies. This is the result shown at (C) in Figure 5.2.

It should be emphasized, moreover, that these calculations pertain to a rather remote contingency--the total liquidation of the account (although large losses early on might have to be made up provisionally by depositing additional gold or dollars). Other difficult problems would have to be solved before the account could be created--problems pertaining to the transferability of the SDR claim, its relationship to the "ordinary" SDR issued by the IMF, and the interest rates payable to the account and to the participants. But all of these issues were discussed exhaustively a few years ago and did not produce deep disagreements. Those arose mainly with regard to the problem of solvency, and deposits of gold by the United States would help to resolve that problem. The United States would benefit directly, moreover, because it

could exchange some of its gold holdings for a readily usable reserve asset.

If the United States could obtain an additional $21 billion of SDR claims and the swap lines were doubled, the United States would have or could borrow usable assets totaling more than $120 billion. They would be nearly twice as large as they were in 1987.[23] It would not be possible for the United States to use all of them simultaneously, and it would not be prudent in any case. Nevertheless, the numbers are impressive. There would be little doubt about the ability of the United States to participate fully in exchange-rate management by taking on a larger part of the required intervention.

NOTES

1. Strictly speaking, governments do not borrow from the IMF; they use their own national currencies to purchase foreign currencies. But they must pay service charges and repurchase their own currencies, so drawings are very similar to borrowings.

2. The classification has been used before; see the references in Kenen (1983a). This review draws heavily on that paper.

3. There are two exceptions to this generalization. The use of the yen in invoicing Japanese exports has been rather small, although it is growing rapidly, and the U.S. dollar is more important than the Canadian dollar in invoicing third countries' exports to Canada. In the case of exports to the United States, moreover, the dollar is used more often than the exporting country's currency. In Kenen (1983a), I estimated the percentages of other countries' exports that appear to be invoiced in dollars:

	Importer	
Exporter	United States	Other Countries
Belgium	57	10
France	45	8
Germany	34	3
Italy	46	27
Japan	89	75
Netherlands	68	11
United Kingdom	52	12

These figures refer to 1979-80, and it would be hard to update them. But the use of the dollar to invoice Japanese exports has presumably fallen because the yen is used more heavily.

4. International Monetary Fund, International Financial Statistics, March 1987.

5. Bank for International Settlements, Annual Report, 1987, cited hereafter as BIS (1987).

6. See Group of Thirty (1982), which collates answers to a questionnaire distributed to central banks and concludes that the dollar is the "only intervention currency for all practical purposes" (p. 4).

7. Mastropasqua, et al. (1988), Table 3; intramarginal intervention in EMS currencies includes $9 billion of intervention in ECU.

8. Figures for 1986 from BIS (1987) include banks in all major centers; figures for earlier years from Kenen (1983a) include only European banks. The numbers themselves are defined rather arbitrarily. As they cover the banks' foreign-currency claims, not their total claims, dollar claims of U.S. banks are excluded but DM claims are included, while dollar claims of German banks are included and DM claims are excluded. Hence, the numbers cannot be used to put the whole picture together. Furthermore, the

figures are affected by exchange-rate changes, and the recent decline in the share of the dollar is due partly to the depreciation of the dollar. But that is not the whole story. The share of the dollar was higher in 1981 than in 1986, although dollar exchange rates were similar in those years.

9. Figures for 1984-86 from BIS (1987) over all international issues; earlier figures from Kenen (1983a) cover only Eurobond issues.

10. See Krugman (1980) and Chrystal (1987).

11. They were less tightly constrained under the Bretton Woods System, when they were free in principle to cash in their dollars for gold. But they were not free to do so in practice. Each one was large enough to fear that its actions would trigger similar actions by others and force the United States to abandon the fixed price for gold.

12. Germany takes a similar stance within the EMS. The rules of the EMS are designed to make it more symmetrical than the Bretton Woods System. Germany must intervene when the Deutsche mark reaches the limit of its band vis a vis some other EMS currency. But it usually leaves intramarginal intervention to its partners. See Mastropasqua, et al. (1988), Table 4.

13. Data on reserves and intervention from International Monetary Fund, International Financial Statistics (various issues) and Board of Governors of the Federal Reserve System, Federal Reserve Bulletin, April 1988. Like many other numbers in this chapter, however, these are affected by exchange-rate changes. The decline in U.S. reserves from December 1986 through February 1988 understates the volume of U.S. intervention, because the depreciation of the dollar raised the dollar value of the foreign currencies held by the United States. Conversely, the increase in German and Japanese reserves overstates their intervention, because the depreciation of the dollar raised the dollar value of their nondollar reserves. U.S. data on the dollar holdings of all foreign governments show that they rose by a total of $81 billion in 1986 and 1987, which was not much more than the increase in German and Japanese reserves. But the U.S. numbers understate the increase in total dollar holdings by omitting dollars held in the Eurocurrency market.

14. The Treasury holds its foreign-currency reserves in its Exchange Stabilization Fund (ESF). When the ESF sells marks for dollars, it uses the dollars to buy U.S. government securities, which does not reduce the total stock of debt but does reduce the stock of debt held by the public.

15. The foreign assets of the Bundesbank rose by 30.9 billion Deutsche mark in 1987, and the stock of central-bank money rose by 16.8 billion or 9.2 percent, twice the annual average for the five previous years. (International Monetary Fund, International Financial Statistics, various issues.)

16. These arrangements were not put in place to finance intervention by the United States; there was little of that in the 1960s. They were used to shift exchange-rate risks temporarily. The United States drew foreign currencies under the swap arrangements and used them to buy back dollars from foreign central banks. But other governments used the swap arrangements to draw dollars when they needed them for intervention. See Solomon (1982), chs. iii, v, and vi.

17. See Kenen (1983b) for proposals to make the SDR a more useful reserve asset by promoting its use in private markets, and Kenen (1986) for proposals to make the IMF more flexible and influential. The more modest proposals made later in the text are not inconsistent with these long-run objectives.

18. Under Art. V.2(b) of the Articles of Agreement, the IMF may perform financial services for its members that do not involve its own accounts. The creation of a substitution account would not require an amendment.

19. Under the 1987 Basle-Nyborg agreements, there is a "presumption" favoring their use to finance intramarginal intervention, but only in limited amounts and on stricter conditions regarding repayment; see Masera (1987).

20. This argument is weak, however, because interest rates on dollar debt tend the market's exchange-rate expectations; when the market expects the dollar to depreciate, interest rates on foreign-currency debt will be lower than interest rates on dollar debt, and foreign-currency borrowing can reduce the cost of servicing the debt even if the dollar does depreciate.

21. These negotiations are described in Solomon (1982), ch. xv; the mechanics of the proposal itself are analyzed in Kenen (1981), which also traces its antecedents. The arrangements for issuing the SDR claims are similar in principle to those for issuing ECU in the EMS, and the broader proposal made later in the text resembles them even more closely, because it would substitute an SDR claim for both gold and dollars. The arrangements for issuing ECU are described in Micossi (1985).

22. The larger figure reflects the fact that the dollar itself makes up about 40 percent of the SDR. The other constituent currencies are the Deutsche mark, French franc, pound, and yen.

23. Recall the figures quoted earlier. The United States had about $35 billion of currency reserves and liquid claims on the IMF plus $27 billion in credit lines under the swap agreements with the G-7 countries, Switzerland, and the BIS, plus $5 billion of readily usable drawing rights under its IMF quota. If the swap lines were doubled to $54 billion and 90 million ounces of gold were exchanged for SDR claims worth about $28 billion, the total would rise to $122 billion.

APPENDIX

This appendix provides empirical support for two statements in the text. The first concerns the state of expectations in the foreign-exchange market at the start of 1988, when central-bank intervention proved to be unusually effective. The second concerns the record of the EMS in realigning exchange rates without giving the market a one-way speculative option.

The State of Expectations

In its monthly Forex Survey, Smith New Court Far East provides a compilation of exchange-rate forecasts made by individual foreign-exchange traders.[1] In Table A.1, I show the standard deviations of those forecasts expressed as percentages of the average forecasts. My method is easily illustrated by looking at the forecasts of the DM/$ rate for the end of

Table A.1 An analysis of foreign-exchange forecasts

Standard Deviations of Forecasts as Percentages of Average Forecasts	DM/$	Y/$
Forecasts for End December 1988:		
At end September 1987	10.48	12.53
At end October 1987	9.99	13.04
At end November 1987	9.22	8.22
At end December 1987	8.80	11.12
At end January 1988	5.50	6.87
At end February 1988	5.48	6.61
At end March 1988	5.25	6.83
Short-term Forecasts:		
End September 1987 for end December 1987	3.59	4.26
End October 1987 for end December 1987	3.67	5.03
End November 1987 for end December 1987	1.52	2.00
End December 1987 for end March 1988	4.53	6.77
End January 1988 for end March 1988	2.93	3.69
End February 1988 for end March 1988	1.83	2.09
End March 1988 for end June 1988	2.47	2.90

Source: Calculated from monthly compilations of individual forecasts distributed by Smith New Court Far East. Compilations of forecasts made in September and October 1987 cover 11 individual forecasts; those made thereafter cover between 13 and 16 forecasts.

December 1987 made at the end of November 1987. This was the array of forecasts in DM per dollar:

Exchange Rate	Number of Forecasts
1.58	3
1.60	3
1.61	1
1.62	4
1.64	2
1.65	2

On this occasion, the average forecast was 1.61 DM per dollar, the standard deviation was 2.45 pfennigs per dollar, or 1.52 percent of the average forecast. The figures in Table A.1 have four interesting features:

(1) The standard deviations for the DM/$ forecasts are uniformly smaller than those for the Y/$ forecasts.

(2) The standard deviations of the DM/$ forecasts for the fixed date December 1988 decline monotonically as the forecast interval shortens; those of the Y/$ do so less regularly, and there is a big jump at the end of 1987.

(3) A similar tendency is visible within each group of short-term forecasts, but the two-month forecasts made at the end of October 1987, just after the stock-market crash, have higher standard deviations than the three-month forecasts made at the end of September 1987.

(4) The standard deviations for the forecasts made at the end of December 1987 are larger than those for the two other pairs of three-month forecasts (those made at the end of September 1987 and at the end of March 1988).

The points made at (2) and (4) about the forecasts made at in December 1987 support the assertion in Chapter 3 that there was much uncertainty about exchange-rate trends even though the market was predicting a further fall in the dollar. (The average forecast for the DM/$ rate predicted a 4 percent depreciation in the first quarter of 1988, and the average forecast for the Y/$ rate predicted a 5 percent depreciation.)

Realignments in the EMS

When a pegged exchange rate is revalued or devalued by an amount larger than the width of the band surrounding it, the new and old bands cannot overlap, and the market exchange rate has to change. Market participants are given a one-way speculative option. Table A.2 reviews the record of the EMS, asking how well it is has done in realigning exchange rates without offering

Table A.2 An analysis of EMS realignments

Category	All Currencies	Excluding Italian lira
(1) Number of realignments	11	11
(2) Possible changes in bilateral central rates[1]	231	165
(3) Actual changes in bilateral central rates[2]	137	94
(4) Changes smaller than width of band[3]	99	56
(5) Changes larger than width of band	38	38
(6) Small changes as percentage of possible	43	34
(7) Small changes as percentage of actual	72	60

Source: Original computations based on changes in ECU central rates given in Ungerer, et al. (1987), Table 8 (which are more precise than the figures shown in Table 2.2).

[1]With 7 currencies in the exchange-rate mechanism, there are 21 bilateral central rates, and these were realigned 11 times.

[2]Excludes those instances in which the bilateral rate did not change because neither of the ECU central rates was changed.

[3]Includes instances in which the change equaled the width of the band.

that option.[2] The first column reports results for all 7 currencies participating in the EMS exchange-rate mechanism. The second column omits changes in the bands for bilateral exchange rates involving the Italian lira, which are wider than the others.

Line (1) shows the number of exchange-rate realignments. Line (2) shows the number of changes in bilateral central rates and bands that would have taken place if each re realignment had changed at least 6 of the ECU central rates and thus changed every bilateral band. (As there are 7 currencies in the exchange-rate mechanism, there are 21 bilateral central rates and bands, and there were 11 realignments, giving 231 as the largest possible number of changes in the bilateral rates and bands.) Line (3) shows the actual number of changes in bilateral central rates and bands, and the next two lines classify those changes. Thus, 99 of the 137 changes in bilateral central rates were smaller than the width of the corresponding bond and thus small enough to deprive the market of a one-way speculative option. The last two lines of the table summarize the outcomes. Line (6) shows the number of small changes as a percentage of possible changes (e.g., 99 : 231 = 0.43). Line (7) shows the number of small changes as a percentage of actual changes (e.g. 99 : 137 = 0.72). These are the "successes" reported in Chapter 3. It

should be noted that all of the changes would have been "small" if all of the bands had been as wide as those for the Italian lira.

NOTES

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2. I am grateful to Judith Kleinman for help with these computations.

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Here is the last section of Mr Peter Kenen's paper.

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6 COORDINATING NATIONAL POLICIES

Perspectives on Policy Coordination

Governments engage in many forms of economic cooperation. They exchange information about their economies, forecasts, and policies. They provide financial assistance to other governments, bilaterally and multilaterally, ranging from balance-of-payments support to long-term development assistance. They act jointly to regulate various sorts of economic activity. Policy coordination is the most ambitious form of cooperation, involving mutually agreed modifications in the instruments of economic policy. In the macroeconomic domain, it involves an agreement about monetary and fiscal policies. The agreement may be framed in terms of the governments' policy targets--growth rates, inflation rates, and so on--but must also identify the policy instruments that governments will use to pursue them.[1]

Policy coordination can result from ad hoc bargaining about particular targets and instruments or an agreement to follow certain rules. The Bonn summit of 1978 is usually cited as the leading instance of ad hoc bargaining, although the bargain was not confined to macroeconomic matters. Germany and Japan made commitments regarding their fiscal policies, and the United States made commitments regarding its energy policies.[2] The Bretton Woods System is sometimes cited as an example of rule-based coordination, because governments had to make policy changes to fulfil their exchange-rate obligations.

Some would say that those obligations were not mutual. Deficit countries had to modify their policies but surplus countries

did not, and the same complaint is made about the EMS. But mutuality and symmetry are not the same. The Bretton Woods System was not symmetrical, although the most striking asymmetries were those that exempted the United States from the obligations borne by other deficit countries, not those that distinguished deficit from surplus countries. Nevertheless, the obligations were mutual in an important contingent sense. They applied in principle to every country when it ran a balance-of-payments deficit.

The Louvre Accord of 1987 can be described as a combination of the two techniques for policy coordination. There were rule-based obligations, loosely defined perhaps, which linked the use of interest-rate policies to the maintenance of exchange-rate stability. There was an ad hoc bargain about fiscal policies, although it served mainly to codify goals that the governments had already chosen unilaterally.

Another distinction has to be drawn. Policy coordination may be aimed at helping the participants pursue their own national targets or helping them pursue collective targets. The economists' models of policy coordination are chiefly concerned with the first strategy, which can be described conveniently as welfare-maximizing coordination. The actual practice of policy coordination is frequently concerned with the second, which can be described as regime-preserving coordination.[3]

Economists portray policy formation as an optimizing process and treat policy coordination as an extension of that process. Each government is deemed to have a welfare function defined in terms of its policy targets, and it sets its policy instruments to maximize that function. Its actions may affect other governments' decisions, but it disregards that possibility. When all

governments behave this way, however, they end up in a suboptimal situation, known as the Nash or non-cooperative equilibrium. They have neglected the policy interdependence resulting from structural interdependence. Japan will not necessarily change its policies just because it has observed a change in US policies. It is bound to change them eventually, however, in response to the effects of the new US policies on economic conditions in Japan. But governments can bargain their way to a better situation, known as the Pareto or cooperative equilibrium. By changing the settings of their policy instruments in a mutually agreed manner, they can get closer to their policy targets and raise each country's welfare.[4]

Viewed from this standpoint, policy coordination serves to internalize the effects of economic interdependence that no single government can capture on its own by setting its policies unilaterally. To use a different metaphor, policy coordination gives each government partial control over other governments' policy instruments. Therefore, it relieves the shortage of instruments that prevents each government from reaching its own targets.[5]

Political scientists and policy makers tend to take a different view of policy coordination. It is needed to produce certain public goods and defend the international economic system from various political and economic shocks, including misbehavior by governments themselves.[6] Much of this important work was done by the United States in the early postwar decades. It was the hegemonic power, with the ability and self-interested concern to stabilize the world economy by its own efforts. Furthermore, it had been largely responsible for writing the rules of the system

and designing the institutions, and it could be expected to defend them whenever they were threatened. Equally important, other governments could not accomplish very much without American cooperation. Matters are different today. It is still difficult to do very much without American cooperation, and little is likely to happen until Washington decides that something must be done. But the United States cannot act alone. The economic and political costs are too high.

It is easy to find instances of regime-preserving cooperation in recent economic history. They include the mobilization of financial support for the dollar and sterling in the 1960s and the joint operation of the London gold pool, the "rescue" of the dollar in 1978, the speedy provision of bridge loans to Mexico at the start of the debt crisis in 1982, and the Plaza Communiqué of 1985, which was meant to defend the trade regime rather than alter the exchange-rate regime.

The bargain struck at Bonn in 1978 can also be described as regime-preserving coordination. It reflected an agreed need for collective action on two fronts--for more vigorous recovery from the global recession of 1974-5, to combat rising unemployment, especially in Europe, and for energy conservation to reduce the industrial countries' dependence on imported oil and limit the ability of OPEC to raise oil prices.

When viewed from this different perspective, policy coordination is the logical response to the dispersion of power and influence that ended American hegemony. Public goods must be produced and institutional arrangements defended by collective action. When seen this way, moreover, disagreements about the

benefits and costs of policy coordination take on a different but familiar aspect. They are debates about burden sharing.

Two Views of Exchange-Rate Management

The two views of policy coordination give us different ways of looking at exchange-rate management. Seen from the welfare-maximizing viewpoint, it is the use of a policy rule to internalize the effects of economic interdependence, and it is inferior in principle to fully optimal coordination. Seen from the regime-preserving viewpoint, it embodies a commitment by governments to pursue exchange-rate stability as a public good--an objective in its own right.[7]

The earliest theoretical work on welfare-maximizing coordination dealt mainly with the pegged-rate case. Recent work has taken the opposite tack, because of the change in the actual exchange-rate regime but also because mathematical tractability has an enormous influence on the economist's research agenda.

Many economists doubt that exchange-rate expectations are truly rational, yet they tend to disparage or dismiss any other view. But it is very hard to solve a theoretical model in which rational expectations are combined with imperfect capital mobility. Accordingly, most such models assume that foreign and domestic assets are perfect substitutes. On this assumption, however, exchange-rate pegging precludes any other use of monetary policy, limiting the scope for policy coordination. Therefore, exchange-rate pegging is typically seen an alternative to discretionary coordination. It is attractive only because a rule-based regime is less vulnerable to cheating or reneging, which economists regard as a major obstacle to fully optimal coordination.[8]

The regime-preserving view invites a more generous interpretation of exchange-rate pegging. It can be a first-best form of policy coordination when governments attach enough importance to exchange-rate stability as a public good. The key questions for them--and for us--pertain to the costs of producing it. On this view, of course, the Louvre Accord represents another instance of regime-preserving coordination. It began as an effort to keep the dollar from "overshooting" and allow the adjustment process to work itself out, but became more ambitious as the G-7 governments started to pursue exchange-rate stability as an objective in its own right.

The Obstacles to Policy Coordination

Economists have used their welfare-maximizing framework to measure the potential gains from policy coordination. An early attempt by Oudiz and Sachs (1984) found that they were disappointingly small. In one of their exercises, for example, the coordination of fiscal and monetary policies by Germany, Japan, and the United States had very little influence on the fiscal instruments and rather small effects on economic performance. When measured in units equivalent to percentage-point changes in real income, the welfare gains were smaller than one per cent of GNP. But subsequent studies have produced much bigger numbers. Holtham and Hughes Hallett (1987) have reported welfare gains, measured in income-equivalent units, as large as 6 or 7 per cent of GNP and no smaller than 3 or 4 per cent, depending on the model used. There would thus seem to be large unexploited gains from welfare-maximizing coordination.

Why don't governments exploit those gains? Economists list four reasons.[9] First, governments are apt to renege on their bar-

gains and cannot trust each other. Second, governments subscribe to different views about economic behavior and the workings of the world economy. Third, governments have different policy targets. Fourth, political and constitutional constraints interfere with the bargaining process.

The first explanation has been thoroughly demolished. The rest make sense. But they seem more cogent when they are invoked to explain the apparent scarcity of regime-preserving coordination than when they are used to account for a shortage of welfare-maximizing coordination.

The economists' concern about reneging derives in large part from the stylized way in which they represent public and private decision-making. Recall the example given in Chapter 4, where the government announced its monetary policy and the private sector made binding wage and price decisions in light of its forecast for inflation, which was based on its expectation about monetary policy. The government might be tempted to cheat--to follow a monetary policy different from the one it had announced, so as to raise output and employment by exploiting the short-run fixity of wages and prices. When it takes a long view, however, it is apt to resist that temptation in order to protect its reputation, and it is very likely to resist temptation when it is involved simultaneously in many sequential games--some with its own citizens and some with foreign governments.

Governments try to avoid making commitments they cannot expect to honor and try to honor those they make:

> If we take seriously the claim that policy-makers in an anarchic world are constantly tempted to cheat, certain features of the [1978] Bonn story--certain things that did not happen--seem quite anomalous. We find little evidence that the negotiations were hampered by mutual fear of reneging.

> For example, even though the Bonn agreement was negotiated with exquisite care, it contained no special provisions about phasing or partial conditionality that might have protected the parties from unexpected defection. Moreover, the Germans and the Japanese both irretrievably enacted their parts of the bargain in September, more than six months before [President Carter's] action on oil price decontrol and nearly two years before decontrol was implemented.
>
> Once the Germans and Japanese had fulfilled their parts of the bargain, the temptation to the President to renege should have been overpowering, if the standard account of international anarchy is to be believed. Moreover, the domestic political pressure on him to renege was clearly very strong. But virtually no one on either side of the final decontrol debate dismissed the Bonn pledge as irrelevant (Putnam and Henning, 1986, p. 100).

But these results should not surprise us when we treat the Bonn bargain as an exercise in regime-preserving coordination and bear in mind the complex and continuing relationships among the participants. Each government stood to gain from its own "concessions" as well as those of its partners, and each was concerned to preserve its reputation for reliability. In President Carter's own words, "Each of us has been careful not to promise more than he can deliver."[10]

Governments <u>do</u> disagree about economic behavior. German and American governments have disagreed for years about the responsiveness of unemployment to aggregate demand and even about the way that aggregate demand responds to fiscal and monetary policies. For a while, moreover, US officials denied that there was any connection between the American budget and trade deficits, while other governments connected them simplistically, without leaving enough room for the role of the exchange rate. But economists disagree in turn about the way in which disagreements among governments affect policy coordination.

Frankel and Rockett (1986) have tried to show that misperceptions about economic behavior can lead to welfare-worsening

policy bargains. They use large multicountry models to represent US and European views about economic behavior and assume that each party uses its own model to measure the welfare effects of striking a bargain with the other. The governments do not exchange information. Instead, they agree to coordinate their policies whenever each government's calculations lead it to believe that coordination will be beneficial, given its own model and policy targets.

After the governments have struck a bargain, Frankel and Rockett ask what will happen to the world economy, using the new settings of the policy instruments and the "true" economic model. Because they must measure the effects of every bargain using all eight models, they must analyze 64 potential bargains and 512 possible outcomes. They find that the United States gains in 282 cases, loses in 228, and is unaffected in the other two, while Europe gains in 283 cases, loses in 219, and is unaffected in the other ten. Both parties' "success rates" are about 55 per cent.

These are interesting results, but they must be interpreted cautiously. Frankel himself concludes that "ministers in G-5 and Summit Meetings might do better to discuss their beliefs directly, rather than simply telling each other how they should adjust their policies" (Frankel, 1987b, p. 31). But that is what governments have been doing all along, and there is a simple way to represent the outcome.

Suppose as before that each government adheres one model and also knows the other's model. If it is not perfectly confident about the rightness of its views, prudential considerations should lead it to ask how a policy bargain would affect its welfare on the working supposition that the other governments is

using the right model; it should not strike a bargain unless it can expect to gain under both governments' models. If it wants to persuade its partner to accept its own proposals, an important part of the actual bargaining process, reputational considerations should lead it to make sure that its own proposals would raise its partner's welfare under both governments' models. These concerns, taken together, impose a strong condition on the bargaining process. It should not even start unless both governments can expect to gain under both governments' models.

Holtham and Hughes Hallett (1987) have reached the same conclusion by a different route and applied this strong condition to the Frankel-Rockett bargains. They use six models, not eight, and have thus to analyze 36 possible bargains. But they rule out 20 of these bargains, because they violate the strong condition.[11] This leads to the first conclusion: Disagreements about economic behavior can be a major obstacle to welfare-maximizing coordination. They can keep governments from getting together. But Holtham and Hughes Hallett also measure the welfare effects of the other 16 bargains, and they find that the success rate is quite high. It is 73 per cent for the United States and 83 per cent for Europe.[12] This leads to the second conclusion: When prudential and reputational considerations block bargains that should not take place, policy coordination is not very dangerous to the participants' health.

No one has made similar calculations for an instance of regime-preserving coordination. But one would expect the same sort of result. When governments disagree about the workings of the world economy, they are bound to hold different views about the costs of policy coordination, even when they agree completely

about the size and distribution of the benefits. Suppose that two governments are considering the use of interest-rate policies for exchange-rate stabilization. If they hold different views about the way that interest rates affect aggregate demand, they will disagree about the costs of exchange-rate stabilization.

Disagreements about economic behavior may be particularly potent in blocking this sort of coordination. All of the side effects will be seen as costs. When governments contemplate welfare-maximizing coordination, they must believe that they can make welfare-improving changes in their own policies if they can persuade their partners to make appropriate changes too. When governments contemplate regime-preserving coordination, they may well believe that their own policies were optimal initially from their own national points of view, and they are likely to resist changes in those policies.

The same possibility arises when governments have different policy objectives--the third in the list of reasons for the scarcity of coordination. In fact, such differences cannot explain why governments fail to engage in welfare-maximizing coordination. On the contrary, they make it more attractive.

An example drawn from Eichengreen (1985) illustrates this point. Indeed, it makes a stronger point. Governments that have incompatible objectives can nevertheless benefit from policy coordination.

Consider two identical economies with rigid wages and greedy governments. Each government wants to hold three-quarters of the global gold stock. If they pursue their targets independently, raising their interest rates competitively to attract capital inflows and gold, they will wind up with identical gold stocks but

high unemployment rates. There are two ways to deal with this outcome. The two governments can agree to reduce their interest rates without even talking about their targets. That is the sort of "policy barter" that economists have in mind when they talk about welfare-maximizing coordination. Alternatively, the governments can reveal and modify their targets. But what if they reveal them and refuse to modify them? That is when conflicts or differences in targets obstruct coordination.

This case is too simple to be taken seriously--or is it? It does not differ from the case in which governments pursue incompatible current-account targets, and they seem to do that frequently. It does not differ from the case in which they attach different weights to various targets, including those collective targets that they can pursue only at some sacrifice in terms of their domestic targets. Problems can also arise when governments agree about the benefits of collective action but attach different weights to domestic targets--when one worries more about inflation than unemployment and the other takes the opposite view. They can be expected to disagree about the costs of acting collectively.

The fourth reason for the shortage of coordination applies to both varieties. Once again, however, it is more compelling when used to explain the scarcity of regime-preserving coordination. There are political and constitutional obstacles to every sort of international cooperation, but they are hardest to surmount when the costs are clear and the benefits less tangible.

The political obstacles to policy coordination have been dramatized by the budgetary problems of the United States. How can the United States participate in international bargaining

about fiscal policies when Congressional leaders can say that the President's budget is "dead on arrival" at the top of Capitol Hill? There is an old story about the last days of World War I, when the German General Staff believed that the situation was serious but not hopeless and the Austrian General Staff thought that it was hopeless but not serious. The Viennese view may be more appropriate here. The budgetary deadlock of the mid-1980s does not signify permanent paralysis. Nor should we neglect the political problems faced by other major countries in making and adjusting fiscal policies:

> The political system in Japan has traditionally restrained the powers of the Prime Minister to a far greater degree than the US constitution limits the power of the American President. Always conscious of factional politics, the Prime Minister must answer to "policy tribes," which are groups of politicians committed to one-dimensional special interests. The Prime Minister must also placate vast armies of bureaucrats, not always from a position of strength. In Japan, it has often been said, politicians reign, but bureaucrats rule (Funabashi, 1988, p. 91).

The German situation is similar for different reasons:

> Although the ruling coalition has no difficulty in obtaining sufficient parliamentary support for its taxing and spending priorities, in practice its control over fiscal policy is undermined by the following two factors. First, since the 1970s, ... the SPD has received control of the Ministry of Finance, while the FDP has staffed the Ministry of Economics, an arrangement that has weakened the federal government's ability to undertake comprehensive or drastic measures. Second, the federal government controls less than 50 per cent of public investment, and only about 15 per cent of the nation's total public spending and investment, the remainder coming from the land and local governments (Funabashi, 1988, p. 117).

There is, of course, a fundamental difference between these situations and the US situation. Once the German and Japanese governments have decided to make a policy change, they can commit themselves formally, and the US government cannot, because it

cannot commit the Congress. But the record is not so very bad. President Carter was careful not to promise more than he could deliver--and he did deliver eventually. In another context, moreover, the White House obtained in advance a promise of rapid Congressional action on the trade-policy bargain produced by the Tokyo round of GATT negotiations--the "fast track" that Congress would follow in agreeing to accept or reject those parts of the bargain requiring new legislation, and the next US administration should perhaps propose a similar stand-by arrangement in the fiscal-policy package it takes to Capitol Hill to break the budgetary deadlock.

The basic problems are political, not constitutional. No democratic government can make major policy changes without working hard to persuade the public that the new policies will be better than the old, if not indeed the best of all possible policies. When the time comes to coordinate policies:

> Each national leader already has made a substantial investment in building a particular coalition at the domestic [game] board, and he or she will be loathe to construct a different coalition simply to sustain an alternative policy mix that might be more acceptable internationally (Putnam and Bayne, 1987, p. 11).

In brief, fiscal policies are not very flexible in any democracy, regardless of its constitution.

Policy coordination is made more difficult by the jurisdictional divisions within governments. The problem is most serious on the monetary side, especially in Germany and the United States which have independent central banks. Here again, however, constitutional arrangements matter less than political realities, and independent central banks maintain their independence by being extremely astute politically. When they resist pressures

from their governments, moreover, it is partly because they know that interest-rate changes affect exchange rates. A unilateral change in German interest rates helped to precipitate the stock-market crash in October 1987, not because it was so significant by itself but because it provoked a strong public reaction from the United States. On many more occasions, however, central banks have refused to adjust interest rates until they could be sure that foreign central banks were ready to move with them.[13]

Furthermore, monetary policies can be altered quickly and incrementally, without building a new political consensus. A change in monetary policy is usually the first indication of a change in official thinking about the economic outlook. Therefore, monetary policies can be coordinated more deftly than fiscal policies, despite jurisdictional difficulties in some countries.

The Framework for Policy Coordination

Rigidities in the making of fiscal policies and differences of view about the ways in which they work are probably sufficient to account for the apparent shortage of welfare-maximizing coordination--the governments' failure to exploit all of the potential gains. They may even account for a more important failure. Quantitative studies of policy coordination have to start with a benchmark--the counterpart of the non-cooperative equilibrium. They must therefore define fully optimal policies for every government, acting unilaterally, and this is an instructive exercise. The welfare gains obtained by optimizing policies are often larger than the gains obtained thereafter by moving from non-cooperative to cooperative policies.[14] Political and institutional rigidities combine with the uncertainties of the real world to

interfere with any sort of optimization, let alone optimal coordination.

The same rigidities and disagreements also help to account for the apparent shortage of regime-preserving coordination, and disagreements about targets are important too. They combine to produce disagreements about burden sharing. Nevertheless, we can be moderately optimistic about the prospects for the particular sorts of coordination needed to support exchange-rate management.

Recall the main points made in Chapter 3 about the policy instruments that should be used for exchange-rate management. Interest rates must be coordinated closely to influence capital flows and offset expectations of exchange-rate realignments. They cannot be assigned to that task exclusively, however, nor can fiscal policies be assigned exclusively to domestic objectives. On the one hand, fiscal policies affect current-account balances and, therefore, the task faced by monetary policies. On the other hand, fiscal policies cannot be adjusted frequently enough to stabilize aggregate demand, so monetary policies must do some work that fiscal policies might do if they were more flexible.

Furthermore, exchange-rate management does not call for the rigid defense of pegged exchange rates within very narrow bands. The bands should be hard but wide, and central rates should be adjusted periodically to rectify disequilibria resulting from different inflation rates, real shocks, and imperfect policies. If fiscal policies cannot be adjusted often enough to avoid or correct external and internal imbalances, exchange-rate changes must take place more often.

It should be remembered, moreover, that international differences in fiscal policies do not necessarily destabilize ex-

change rates. They have not done so in the EMS, where they continue to be fairly large.[15] In fact, differences in fiscal policies can help to offset differences in savings rates that would otherwise produce current-account imbalances. The lesson to be learned from the 1980s relates to the effects of large unilateral shifts in fiscal policies, which are bad news indeed.

The framework currently being developed for the multilateral surveillance of G-7 policies should be adaopted to focus more sharply on that problem. It originated at the Versailles summit of 1982, when the G-5 governments agreed to cooperate closely with the IMF in its own surveillance of exchange-rate policies. It was given more structure at the Tokyo summit of 1986, when the task was reassigned from the G-5 to the G-7, and the governments agreed "to review their individual economic objectives and forecasts collectively at least once a year ... with a particular view to examining their mutual compatibility" and to base that review on a list of quantitative indicators. It was refined again at the Venice summit of 1987, when the list of indicators was pruned to six (growth rates of real GNP, inflation rates, budget balances, trade balances, interest rates, and exchange rates) and the aims of the exercise were stated more clearly. Attention was finally given to the need for governments to agree on policy objectives before they can appraise economic performance.[16]

Subsequent work has concentrated on a more technical problem--whether to rely on the governments' own numbers or those of the IMF. The issue is not trivial. Governments can be made to stand by their own numbers but are free to criticize or disavow all other numbers. Use of the Fund's numbers, however, enhances its role in the review itself, where it can represent the coun-

tries that consume the public goods produced by policy coordination, and they should be represented actively if the G-7 governments assume responsibility for maintaining global economic stability, not merely for exchange-rate management.

But other problems must be faced. The present list of indicators is less than satisfactory, because it fails to distinguish between targets and instruments. The focus of the exercise is too narrow, because it is concerned primarily with the compatibility of national projections and policies rather than their quality.

Compatibility is vital for exchange-rate stability. So is sustainability. If the fiscal policies of the G-7 governments look as though they will cause large current-account imbalances, monetary policies may be asked to produce large capital flows to cover the imbalances, and this may be impossible. The requisite flows may be too large for sustainability, and the requisite interest-rate differences may not be consistent with the maintenance of domestic economic stability in individual G-7 countries. Fiscal policies have then to be adjusted by an ad hoc bargain or, more appropriately, by a standing commitment on the part of each government to integrate the results of multilateral surveillance into its own policy-making process at an early stage--before it has announced its budget.[17]

But compatibility is not enough. The G-7 governments must take responsibility for the most important public good, global economic stability, and the multilateral surveillance of their policies must emphasize quality, not merely compatibility. How will their policies affect the growth rate of global GNP? How will they affect commodity prices, interest rates, and other

variables strategically important for all countries, but especially for the less developed countries?

An omniscient policy-making body might look at the problem as a two-stage process:

> The first stage should articulate and quantify composite policy objectives for the major industrial countries, relating to growth rates, inflation rates, and other variables. These should be framed as medium-term targets, but they should be updated and extended periodically. No attempt should be made to "fine tune"the world, but the major industrial countries should not be allowed to pretend that they have no influence on--or responsibility for--the evolution of the world economy.
>
> The second stage should translate the composite targets into operational commitments on the part of each participating government. Each country's obligations must be framed to take account of that country's special problems, but they should be consistent in two senses: (1) they should be adequate, taken together, to achieve the composite policy objectives; and (2) they should not involve larger changes in exchange rates than any other set of policy commitments capable of reaching the same objectives (Kenen, 1987b, p. 1453).

In this particular formulation, the exchange rate comes out at the end. In the rest of this paper, by contrast, exchange-rate stability was treated as the starting point for policy coordination. But the two formulations are not different in principle. Both emphasize the need to review exchange rates periodically to ask if realignments are needed. Furthermore, the current focus on exchange-rate stability must not divert the G-7 governments from concern with the global impact of their economic policies--the need to produce other public goods.

Conclusion

Two questions remain: What would have happened in the early 1980s if there had been more intensive exchange-rate management?

When should governments begin to move towards more durable exchange-rate arrangements?

Several economists have tried to show what various policy rules or guidelines might have done to improve economic performance in the 1980s.[18] They do not have much trouble, because their policy rules would have softened the sharp monetary contraction that occurred at the start of the decade and prevented the Reagan administration from running large budget deficits.

It is harder to detect the influence of their exchange-rate rules, because they are not very strict, and their influence is swamped by the differences in monetary and fiscal policies. It would be particularly hard to simulate the influence of the exchange-rate regime proposed in this paper, which might have had large effects on monetary conditions, because it might have called for large amounts of intervention (and more intervention by the United States). At the start of this paper, moreover, I argued that exchange-rate arrangements should be compared when other policies are imperfect. It would be wrong to compare the performance of floating exchange rates in the early 1980s under the influence of Reaganomics with the performance of managed exchange rates under more sensible fiscal policies.

The fiscal policies pursued by the United States would have caused serious trouble under any exchange-rate regime. But the symptoms would have been different under the arrangements proposed in this paper. The upward pressure on the dollar would have been limited by intervention, and if the intervention was not fully sterilized, it would have led to monetary contraction in Europe and Japan and monetary expansion in the United States.[19]

This point has been made by Frenkel (1987) and other economists critical of McKinnon's proposals for exchange-rate stabilization, and it is mentioned by Williamson and Miller (1987) as an objection to methods of exchange-rate management stricter than their own. But the resulting political pressures might have forced the US government to act earlier and more decisively on the budgetary front. At the same time, the monetary consequences of intervention would have given governments fair warning of the need to adjust exchange rates--to revalue the dollar but by less than it rose in the 1980s under the influence of market forces.

The next US administration will be urged to retreat from exchange-rate management and policy coordination. Writing shortly after the stock-market crash, Martin Feldstein most the case most bluntly:

> Washington's explicit recognition of its responsibility for America's economic future would ... reassure financial markets that have become unnecessarily frightened by the prospect that international economic coordination will collapse. Unfortunately, ever since the 1985 Plaza meeting, the administration and the governments of other industrial nations have emphatically asserted that international economic coordination is crucial to a healthy international economy in general and to continued US growth in particular. Since such assertions are not justified by the actual interdependence of the industrial economies, Americans have been inappropriately worried about whether coordination would continue.
>
> Because foreign governments will inevitably pursue the policies that they believe are in their own best interests, it was inevitable that international coordination would eventually collapse ... But what contributed to the market decline was not the collapse of international macroeconomic coordination per se but the false impression created by governments that healthy expansion requires such coordination.
>
> The US should now in a clear but friendly way end the international coordination of macroeconomic policy. We should continue to cooperate with other governments by exchanging information about current and future policy decisions, but we should recognize explicitly that Japan and Germany have the right to pursue the monetary and fiscal policies that they believe are in their own best interests.

> It is frightening to the American public and upsetting to our financial markets to believe that the fate of our economy depends on the decisions made in Bonn and Tokyo. Portfolio investors, business managers and the public in general need to be reassured that we are not hostages to foreign economic policies, that the US is the master of its own economic destiny, and that our government can and will do what is needed to maintain healthy economic growth (Feldstein, 1987).

These views are held on both sides of the political divide, although they are not always expressed so emphatically.[20] But they tend to reflect the economists' traditional concern with welfare-maximizing coordination and their neglect of the governments' concern with regime-preserving coordination. They also reflect the traditional US approach to the problem of symmetry--concern for the ability of the United States to alter its exchange rate more freely than it could under the Bretton Woods System.

But the United States has much to gain from exchange-rate management. The costs of large exchange-rate changes are very high. They may be even higher for the United States than for many other countries, because nominal wages tend to be more rigid in the United States, giving the nominal exchange rate more influence over the real rate.

But another, more immediate, consideration should influence the next US administration--the risk that the next exchange-rate cycle will begin as soon as the United States starts to deal with its budget deficit. That task must have the highest priority, for political as well as economic reasons, and international as well as domestic reasons. The next administration cannot hope to exercise leadership in international economic matters unless it moves promptly and decisively to cut the deficit. As soon as it does, however, the foreign-exchange market may start to change its mind about the dollar, and it may begin to appreciate.

The next US administration must send a fiscal-policy package to Capitol Hill shortly after it takes office. Soon thereafter, in time perhaps for the spring meeting of the IMF Interim Committee but certainly in time for the next economic summit, it must make up its mind about two other issues--what to do about exchange rates and about third-world debt.

Thanks @ the end!

NOTES

1. Similar definitions are used by Bryant (1980, p. 465), Artis and Ostry (1986, p. 75) and Frankel (1987b). The varieties of cooperation are discussed in Kenen (1987a), on which I draw frequently in this chapter. Other authors do not always include a clause about policy instruments in their definitions of coordination. Without it, however, the concept becomes too elastic. At the start of the 1980s, governments agreed to combat inflation but did not agree about instruments. Chapter 2 described the outcome--huge movements in real exchange rates and current-account balances. No one would want to identify that outcome with policy coordination.

2. See, e.g., Putnam and Bayne (1987), ch. 4.

3. I have drawn the same distinction elsewhere (Kenen, 1987a, 1987b, 1988), using various rubrics to describe the two forms of coordination. It should not be confused with the distinction drawn later between the consistency and quality of policies, both of which pertain to regime-preserving coordination.

4. Following Hamada (1974, 1976), the Nash and Pareto equilibria are usually depicted with the aid of reaction curves; see, e.g., Cooper (1985), Eichengreen (1985), and Artis and Ostry (1986). Reaction curves appear to say that governments respond directly to changes in other governments' policies. If that were the case, however, the Nash equilibrium would be unstable; each government would soon notice that other governments do not stand pat when it alters its own policies. Therefore, reaction curves should be deemed to say that governments respond to the effects of their partners' policies without actually watching them. They can then react repeatedly to each others' policies without drawing any inference about policy interdependence. Research on welfare-maximizing models is reviewed by Cooper (1985), Fischer (1987), and Kenen (1987a); for a more thorough treatment of recent theoretical developments, see Oudiz and Sachs (1985).

5. See, e.g., Buiter and Eaton (1985) and Eichengreen (1985).

6. See, e.g., Putnam and Bayne (1987), ch. 1, and the sources cited there. Some economists share this view; see Cooper (1985) and Kindleberger (1986).

7. Strictly speaking, it becomes an intermediate objective, adopted to defend the international economy against the effects of exchange-rate instability.

8. See, e.g., Canzoneri and Gray (1985) and McKibbin and Sachs (1986). This view resembles the political argument for exchange-rate pegging set out in Chapter 2 and is open to the same objection; governments will not subscribe to rules that constrain their behavior unless they want to tie their own hands--and will not want to do that permanently. There is a different welfare-maximizing case for exchange-rate pegging when foreign and domestic assets are imperfect substitutes. If exchange rates are pegged, each government, acting unilaterally, can respond in a

fully optimal way to various disturbances; if exchange rates float, it cannot do so. Exchange-rate changes interfere with the pursuit of price stability. Like most theoretical conclusions, however, this one depends on a number of restrictive assumptions; see Kenen (1987a).

9. This list draws on Frankel (1987b).

10. Quoted in Putnam and Henning (1986), p. 100.

11. Three are ruled out because Europe would be worse off on the US view of the world, eight are ruled out because the United States would be worse off on the European view, and the other nine are ruled out because both parties would be worse off on the other's view.

12. These numbers cannot be compared directly to the 55 per cent success rate reported by Frankel and Rockett, which covered all eight models. The corresponding rate for the six models used by Holtham and Hughes Hallett was 62 per cent.

13. See Funabashi (1988), chs. 2 and 7. But his assessment of monetary cooperation (pp. 209-10) is more critical than mine. He seems to regard the central bankers' silence at certain G-5 meetings as reflecting a reluctance to coordinate their policies. It should perhaps be seen as reflecting their reluctance to endorse the rather vague commitments made by finance ministers.

14. Working with a modified version of the COMET model and dealing with policy coordination between the United States and Europe, Hughes Hallett (1987) obtains these welfare measures:

Simulation	United States	Europe
Baseline	466.2	346.2
Non-cooperative	103.6	81.3
Cooperative	96.2	55.8

These are loss-function calculations, so reductions are good things, but the biggest reductions occur on the way from the actual (baseline) situation to optimal non-cooperative policies, not from non-cooperative to cooperative (coordinated) policies.

15. See Gros and Thygesen (1988), p. 7.

16. The origins and evolution of this framework are described by Putnam and Bayne (1987), ch. 9, and Funabashi (1988), ch. 6.

17. To facilitate this integration, the G-7 governments should perhaps standardize their budget cycles by moving to a common fiscal year. That would be hard but would not involve any sacrifice of national autonomy. The harder requirement is the need to rely heavily on medium-term forecasts when reviewing the compatibility of national policies. There is a painful trade-off here between reliability and flexibility. A six-month forecast is more reliable than a two-year forecast, but the six-month forecast is much less useful for modifying fiscal policies be-

cause it gives governments too little lead time.

18. See, e.g., Williamson and Miller (1987) and Currie and Wren Lewis (1988).

19. Monetary expansion would have taken place in the United States even without any major change in institutional arrangements. If foreign central banks had conducted most of the intervention, they would have run down their dollar reserves and sold US government securities. If the US Treasury had conducted some of the intervention, the ESF would have sold US government securities to finance its purchases of foreign currencies. US interest rates would have risen in both cases, forcing the Federal Reserve to make open-market purchases and thus raise the growth rate of the money supply. (If the Federal Reserve had conducted some of the intervention, the US money supply would have risen automatically.)

20. See Dornbusch (1988), and Krugman (1988b), and Fischer (1987, p. 46), who says that "there would be little need for policy coordination if each country were taking good care of its domestic policies".

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wh1/4.7

FROM: WARWICK HOOD
DATE: 8 JULY 1988

PS/CHANCELLOR

cc Sir Terence Burns
Sir Geoffrey Littler
Mr Lankester
Mr Evans
Mr Odling-Smee
Mr Matthews

Thanks. Prof Miller appears to imagine that XR stability to be a function of c/a/c [illegible] v. [illegible]

PLANS FOR PROMOTING EXCHANGE RATE STABILITY: TALK BY PROFESSOR MARCUS MILLER

At a CEPR meeting earlier today, Professor Miller gave his latest views on the international monetary system. The attached press release was issued at the same time.

2. His thesis was that recent experience (essentially since the Plaza agreement) had shown that a return to fixed exchange rates at the G3 or G7 level was now off the agenda. The McKinnon proposal for fixed exchange rates assigned global monetary policy to inflation, with interest differentials set to stabilise exchange rates. That leaves fiscal policy targeted at the current account balance. However, the plan involves more policy co-ordination than is likely for the foreseeable future.

3. The choice, according to Miller, is therefore between a Target Zones scheme and what he calls "disciplined floating", a scheme attributed to Boughton at the IMF. This reverses the policy assignment of Target Zones: monetary policy is instead set to achieve targets for nominal income, and fiscal policy (as in McKinnon) set so as to secure balance of payments targets. Exchange rates are not directly targeted, but are thought likely to be more stable than in the early 1980s under this scheme because of the "discipline" on fiscal policies.

4. Recent empirical work has suggested that the Target Zones scheme was in general more effective than Boughton's policy assignment. Nevertheless, Miller thought that because the Germans were sceptical of directing their monetary policy towards the dollar-DM exchange rate rather than domestic inflation, something along the lines suggested by Boughton might be appropriate. However, this was not the case with the yen-dollar relationship, where there appeared to be an acceptance of exchange rate targets by both the US and Japan.

Warwick Hood

WARWICK HOOD
IF2 Division

Centre for Economic Policy Research

FOR RELEASE 1:30 pm, FRIDAY 8 JULY 1988

Please describe this meeting as "a lunchtime meeting organized by the Centre for Economic Policy Research"

For further information:
Paul Compton
01 930 2963

Plans for Promoting Exchange Rate Stability —

TARGET ZONES, FIXED RATES OR DISCIPLINED FLOATING?

The debate on how to avoid unstable exchange rates has changed its focus, international economist **Marcus Miller** argued at a CEPR lunchtime meeting today, Friday 8 July. Problems experienced under the Louvre Accord last year meant that the choice for a reformed international monetary system was no longer primarily between fixed rates and Target Zones, but rather between Target Zones and a form of 'disciplined floating' where fiscal policy is tied to keeping the current account in balance. Attitudes taken at the Toronto Summit suggest that an uneasy compromise is emerging, with the United States and Japan on the one hand agreeing an explicit bilateral exchange rate zone, and on the other hand West Germany (and the EMS) adopting a more flexible, floating relationship. The UK's official position is somewhat ambiguous: last September, the Chancellor endorsed a type of 'Global EMS', but these views have subsequently been severely challenged by the Prime Minister.

Marcus Miller is Professor of Economics at the University of Warwick and Co-Director of the International Macroeconomics programme at CEPR. He has been a visiting economist and a Houblon-Norman Fellow at the Bank of England, and has served as a specialist adviser to the House of Commons Select Committee on the Treasury and Civil Service. He has published widely on floating exchange rates and the EMS and has worked with John Williamson in writing both *Targets and Indicators: A Blueprint for the International Coordination of Economic Policy* (Institute for International Economics, Washington DC, 1987) and CEPR Discussion Paper No. 266, 'The International Monetary System: An Analysis of Alternative Regimes'. He is also co-editor (with Francesco Giavazzi and Stefano Micossi) of a CEPR volume on *The European Monetary System* (CUP, September 1988). The opinions expressed at the meeting were his own, however, and not those of CEPR, which takes no institutional policy positions.

As Andrew Crockett of the IMF noted in a speech before the recent G7 summit, experience with floating rates since 1973 has proved disappointing in a number of respects. In the first place, exchange rates have moved far more in response to fundamentals than seems rational. Thus the US dollar appreciated by roughly 70% in real effective terms in the first five years of the current decade, only to fall by an even larger amount subsequently: much more than can be attributed to fundamental factors. Associated with these 'misalignments' have been unsustainably large payment imbalances. As for national monetary targets (designed to supply a nominal anchor under floating) their credibility has been substantially undermined by the speed of financial innovation and the pressures for financial deregulation.

Miller recalled the marked shift in attitudes towards exchange rates in the last three years or so, not least on the part of US policy-makers, with the Plaza agreement (to drive the dollar down) and the Louvre Accord (to stabilize the dollar and to shift domestic demand in ways that would accommodate an improvement in the US deficit) being the two most notable examples. These developments had put the subject of international monetary reform firmly on the agenda.

Recent experience and various proposals for reform are indicated in the table below, which classifies systems by two criteria, the flexibility of exchange rates and symmetry of operation.

Table: International Monetary Systems

	Symmetric Decision-Making	*Hegemony*
Fixed Exchange Rates	McKinnon's 'Paper Gold Standard'	Dollar Standard (1968-73)
Managed Exchange Rates	Williamson's Target Zones	Plaza-Louvre (1985-87)
Floating Rates	Boughton's 'Disciplined Floating' and National Monetary Targets (1973-85)	

A. *Fixed Rates.*

In 1984 Ronald McKinnon proposed a symmetric *Paper Gold Standard*, in which there would be fixed exchange rates between the United States, Japan and Germany and a target for the growth rate of their combined money stock. Recently, however, he has replaced the money supply with the aggregate price level as a target for monetary policy in the G3 economies, so that the three countries would set interest differentials to stabilize their exchange rates and adjust the average level of interest rates so as to preserve price stability. Fiscal policy is directed to achieving current account balance in McKinnon's framework. McKinnon is right, according to Miller, to argue that a symmetric system of some type is more likely to be acceptable than a return to US hegemony, and that monetary policy is easier to coordinate than fiscal policy. But his plan assumes more consensus among national policy-makers than is the case now or in the foreseeable future.

B. *Target Zones.*

US and UK experience under floating exchange rates and national money supply targets has demonstrated that the nominal exchange rate will not necessarily adjust to offset inflationary differentials so as to keep real exchange rates stable. Instead real exchange rates have showed prolonged deviations from equilibrium ('misalignments') during the 1980s. It is this difficulty that Williamson's Target Zones were designed to remedy. He argued that exchange rates should be set so as to provide sustainable current account balances. In 1983 he proposed that the G7 countries should adopt targets for central exchange rates designed to deliver sustainable current account balances at the highest level of output at which inflation is stable, and that monetary policy should be used when rates deviate by more than 10% from such targets. Target values for nominal exchange rates would in effect be adjusted to offset inflation (i.e. they would be allowed to 'crawl'), thus becoming effectively target *real* exchange rates.

With monetary policy assigned to attaining a real target, it was objected that there would be insufficient check on inflation. Consequently, in 1987, the target zone proposal was extended to include the proposal that the *average level* of interest rates be set so as to stabilize aggregate nominal growth in the G7, and in addition that individual countries would adjust fiscal policy if domestic demand in nominal terms were to grow too fast or too slow.

Like the McKinnon plan, the Extended Target Zone system involves multilateral cooperation on stabilizing exchange rates (but involving G7 rather than G3). In addition, despite their different exchange rate targets, one observes that, at the global level, the two proposals employ similar mechanisms for controlling inflation: in each system the average level of interest rates is assigned to stabilize a nominal target.

The Extended Target Zone system was evaluated in a recent study by David Currie and Simon Wren-Lewis using the National Institute World Economic Model (GEM). Their results suggested that applying such rules in practice would have led to a significant improvement in economic performance during 1975-85 (see Discussion Paper No. 221).

C. *Disciplined Floating.*

Recently, however, the policy assignment embodied in the Extended Target Zone system has been challenged by James Boughton of the IMF. He argues against using monetary policy for exchange rate targets, and recommends a return to floating rates with two major provisions: that monetary policy be guided by targets for nominal income rather than for money supply, and that fiscal policy be 'disciplined' so as to secure balance of payments targets.

In an extension of their earlier study, Currie and Wren-Lewis have specifically compared these two plans. They found that the 'J-curve' response of current accounts and the weak link between money and nominal income prevented Boughton's policy assignment from working effectively.

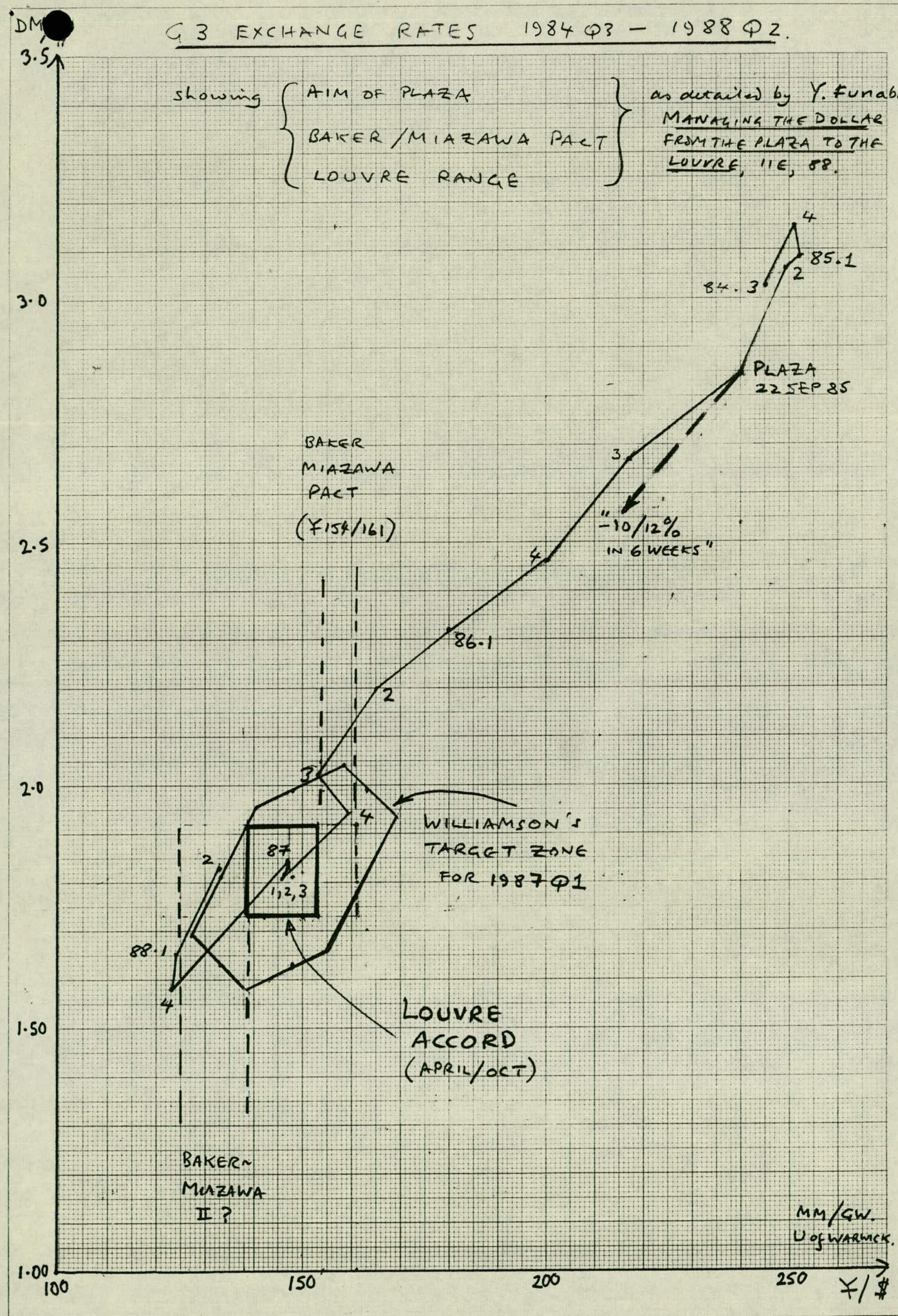
The habit of policy coordination has been established and looks set to continue, Miller concluded. There is general agreement on the need to secure and maintain sustainable exchange rates and in managing aggregate demand so as to accommodate shifts in external balance. But fixed exchange rates are off the agenda, and there is no clear consensus on where this process of incremental reform is heading.

Recent reports suggest a much greater acceptance of exchange rate targets by the US and Japan than by the Bundesbank. There may indeed have been a renewal of the Baker-Miyazawa pact to stabilize the yen-dollar rate, but Germany is unwilling to fix rates against the dollar because she lacks confidence in the US's willingness to fight inflation. As they are also sceptical of a Target Zone system which directs monetary policy towards exchange rates rather than inflation, they must logically opt for a more flexible relationship with the dollar — possibly along the lines suggested by Boughton.

[172PS/PP4]

G3 EXCHANGE RATES 1984 Q3 – 1988 Q2.

showing { AIM OF PLAZA; BAKER/MIAZAWA PACT; LOUVRE RANGE } as detailed by Y. Funabashi MANAGING THE DOLLAR FROM THE PLAZA TO THE LOUVRE, IIE, 88.



mjd 1/13A

SECRET

FROM: A C S ALLAN
DATE: 21 July 1988

MS O'MARA

cc PS/Economic Secretary
Sir P Middleton
Sir T Burns
Sir G Littler
Mr Scholar
Mr Peretz
Mr Gieve
Mr M P Williams
Mr Cropper

please find me earlier pps on this

M.

PROFITABILITY OF INTERVENTION

The Chancellor would be grateful if the earlier figures on the profitability of intervention could be updated to take account of more recent movements in the reserves and - more importantly - in the exchange rate.

A C S ALLAN