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ANNEX

Operational Considerations for Monetary Policy in Stages 2 and 3

I. INTRODUCTION

~~Any concrete step towards economic and monetary union needs to address the problem of how to organize monetary policy during the transition from the present system of fixed-but-adjustable exchange rates to a full monetary union with a common currency. The main Report has discussed the three stages that might lead gradually to the introduction of a common currency; this annex discusses what operational frameworks might be used to formulate and implement a common monetary policy in the intermediate stages, that is in a system of quasi-fixed exchange rates (stage 2 of the main Report) and in a monetary union consisting of irrevocably fixed exchange rates (stage 3 of the main Report).~~

[In discussing operational frameworks for the intermediate stages 2 and 3 this annex starts from the principles for the organization of the European System of Central Banks (ESCB), set out in part II of the main Report. The most important of these principles is that the main aim should be the stability of the purchasing power of the common currency. This principle is taken as given in this annex, though its interpretation is briefly discussed.

Part III of the main Report outlines the principles that should govern a step-by-step approach to economic and monetary union. For the purpose of this annex the most important of these principles are :

- a) Each step should be discrete, but evolutionary; this implies that the institutional arrangement to be created initially should be capable of evolving gradually within each stage so that they can still be used in subsequent stages.
- b) Although progress should be gradual within each stage there should never be any ambiguity about which institution (Community or national) has the "last word" with respect to the use of any particular instrument of monetary policy.

This last point is discussed more in detail in the next section together with some general considerations concerning the relationship between monetary policy and exchange rate policy. The first point constitutes an important element in the analysis of the institutional arrangements. Section II of the annex discusses some general principles for monetary policy in the intermediate stages 2 and 3 and section III then analyzes the operational arrangements that have been proposed in the Committee. /

II. GENERAL PRINCIPLES FOR MONETARY POLICY IN THE INTERMEDIATE STAGES

Part II of the main Report has pointed out that once exchange rates ^{be} are irrevocably locked at the transition to stage 3, a common monetary policy ^{would be} is required and will have to be formulated collectively in the framework of the ESCB. In contrast, during stage 2, ^{when there is} ~~still some exchange rate flexibility~~ national authorities will retain the "last word" concerning exchange rates and therefore their monetary policies. However, the same considerations that lead to the conclusion that the irrevocable locking of exchange rates requires a common monetary policy also imply that to the extent that exchange rates ^{become} progressively more and more stable national monetary policies will, in practice, become more constrained. Increasing exchange rate stability therefore requires a framework for co-operation and co-ordination of monetary policies. The more explicit the degree of exchange rate fixity, and the higher the degree of capital mobility, the closer must be the coordination and the extent to which the overall policy stance of the system has to be decided in common.

national monetary policy

To this end

Three procedures could be envisaged. They which could be complementary or inchoately as an intermediate - in the course of stage two:

- a centralisation of monetary & ex. market operations in a new institution, jointly owned by all central banks; its decisions would power would be transferred to the operational bodies
- a limited pooling of exchange reserves on the basis
- establishment of a new operational framework involving a three tier system

The principal difference between these three procedures is the degree of centralisation that is attributed to a central bank. Under the first proposal, all the monetary would not only national central banks but central functions, notably ... Under the second proposal the central institution would be given the central and the instruments that contain the primary instruments, and the monetary ... would ensure that national monetary policy would not be affected against the

will of the authorities and that de facto monetary policy would continue to be under their control. It might be more common behavioural policy would require additional adjustment in the next set up. The third proposal would put into place a framework which could, without any major involvement in the next, be used to conduct a common policy, but would also operate with appropriate safeguards which would leave the central and national policies in the hands of national authorities with the transfer of authority to a central apparatus.

hw.
Although during stage 2 the final authority for ~~exchange rates and~~
~~this~~ monetary policy would remain with the national authorities,
significant improvements in monetary coordination could be made either
by centralizing money and exchange market operations of national
central banks in a new, jointly owned institution without any transfer
of authority, or by assigning decision-making power over specific
policy instruments to a collective body, or by some combination of
both.

Pooling of operations

For example, exchange market operations could be pooled by assembling
the foreign exchange dealers of all central banks on one trading
floor. They would still be acting under instructions from and for
account of their own national central bank, but to the outside they
would appear in the name of the common institution. Centralizing the
execution of other monetary policy operations would ensure that all
national central banks would also be informed instantaneously about
the domestic actions of all the other central banks. The advantages of
such an approach might be that (a) it could have a powerful
demonstration effect, (b) it would provide a training ground for the
joint implementation of a common monetary policy and (c) would provide
an institutional set-up that would evolve gradually towards the ESCB
in stage 3. Aspects of this approach could be combined with all of the
institutional frameworks discussed in section III of this annex. To
the extent that this approach does not require Treaty revision,
because no formal transfer of monetary sovereignty is involved,
initial steps could even be taken in stage 1.

—
/ A fuller description of this proposal awaits discussions in the
Committee's March meeting. /

Pooling of international reserves

Co-ordination and co-operation could be also fostered by pooling
"means". For example, national central banks could pool permanently a
certain percentage of their international reserves by putting them at
the disposal of a jointly owned institution which could then intervene

Some general considerations.

1) Some concluding, as it will become
evident with the approaching of the 1 stage,
a number of ~~some~~ basic questions arise

2) After my presentation for a
common policy it must be borne in
mind that they will have to

meet two requirements:

- to comply with the administrative objectives.
- and, the operating procedures to achieve it

This implies agreement on the measurement of
the obj - (stability of price at the C-level
the producer level, as well as the rate of
increase

- on the use of instrument of law to
achieve it; i.e. the operational framework

b) The objective

in foreign exchange markets, especially in the markets for third currencies. The mere creation of a pool of reserves would be a signal that there was concrete progress towards economic and monetary union and the joint operations themselves would provide a useful training ground. A ~~useful~~ additional task for the institution might be to provide on a regular basis a consistent analysis of monetary developments. This might facilitate the convergence of views regarding the necessity of foreign exchange market interventions and their effects on domestic monetary policies that would be required for the joint decisions regarding interventions. Aspects of this approach would also be combined with the institutional proposals for assigning particular monetary instruments to a collective body discussed in section III.

Analytical framework and ultimate objectives

The common monetary policy for stage 3 that will be formulated by the ESCB requires a consensus about the ultimate objective and the operating model for monetary policy. A consensus concerning stability of purchasing power of the currency as the main objective of monetary policy is evident from the agreement on the principles for the ESCB in the final stage mentioned above. However, a similar consensus about intermediate objectives and on the operating model for monetary policy does not exist at present. The analysis of the institutional frameworks in section III therefore has to assume implicitly that such a consensus will emerge during stage 2 as a result, in particular, of the joint, and hence consistent, analysis of monetary developments proposed for this stage.

The objective of price stability is more easily interpreted in a national economy where prices can be expected to move closely together throughout the entire area. For a national economy price stability is therefore usually interpreted as approximate stability in such broadly based indices as the consumer price index. However, in an area as large and as diverse as the Community it can be expected that prices of less intensively traded goods and of services that form a large part of consumption based indices can diverge substantially even over the medium term. In spite of this drawback of consumption based

indices it has been argued that they would nevertheless be the appropriate indicator since they are widely accepted and are broadly based, which implies that they are more directly related to the cost which inflation is perceived to impose on the economy. As an alternative it has been suggested that the Community-wide objective of price stability should be interpreted as implying an objective of approximate stability of the producer price index of manufactured goods. These prices would tend to equalize across the internal market that will exist after 1992.

III. OPERATIONAL FRAMEWORKS FOR A COMMON MONETARY POLICY IN THE INTERMEDIATE STAGES

The more specific operational frameworks discussed in this section are not necessarily mutually exclusive; in some cases it might even be useful to combine elements of different approaches. However, the discussion treats them as distinct in order to highlight their specific characteristics. Although these frameworks use the ecu to denominate certain transactions, this does not imply that they rely on the ecu to become a parallel currency or that there would be a refinancing of the private ecu circuit by any official institution. The use of the ecu to denominate certain transactions in the formulation and/or execution of a common monetary policy in the intermediate stages is therefore completely independent of developments concerning the use of the private ecu in the markets.

Although there is conceptually a clear break between stages 2 and 3 in the sense that the final authority for exchange rate and monetary policy would no longer rest with national authorities in stage 3 this section does not distinguish sharply between these two stages. Given the high degree of exchange rate fixity that can be expected to prevail towards the end of stage 2, the economic constraints at that point would anyway be very similar to the ones operating during stage 3. Moreover, the institution(s) to be created for stage 2 should be able to function in stage 3 as well. For these reasons it has been preferred not to take the conceptual difference between stages 2 and 3 into account in the discussion of this section.

Possible approaches

- not only coordination through architecture but through operation

- ~~use of a set of process requirements~~
 where process have $\rightarrow$ all use $\uparrow$

i.e. following architectural

arguments:

- balance sheet
- architecture $\rightarrow$ measures value
- generally combine network links, skills
- to create interconnected capability
- i.e. a mechanism through which
- the critical functions can (co-)determine

Basic characteristics of the proposal

to do it through a system of process arguments

A three-tier system : ESCB, participating central banks, commercial banks

Given that during stage 2 the ultimate authority for exchange rate policy, and therefore also monetary policy, will remain with national authorities it has been suggested that it might be useful to build the monetary organisation of the Community on a system consisting of three tiers : A central monetary institution (the ESCB), national central banks and commercial banks. The central monetary institution would deal only with national central banks and it would act as the central bank for the national central banks. The latter would continue their present relationships with domestic commercial banks but they might settle part of their transactions with other national central banks through their accounts with the central monetary institution.

With this organizational structure the scheme would have three fundamental components :

- An autonomous balance sheet for the central monetary institution so that it can take operational decisions rather than serving simply as a forum for concertation.
- A mechanism ensuring direct control of the liabilities of the central monetary institution, in analogy with the control exercised by national central banks on their domestic liabilities that constitute the monetary base.
- A set of provisions to create a demand by national central banks for the liabilities of the central monetary institution by making their liabilities a necessary ingredient in the national money supply process.

3 elements

- what is important:

that the central institution can control
the supply of its reserve asset
and that there are no alternative
channels through which national central
banks could obtain such assets to
meet their reserve requirements

The official 'ECU' would be a national
currency - But then the creation of
ECUs would have to be controlled solely
by the central institution. If the main
ECUs were to be the same as the present
official ECUs, the creation of ECUs would
have to be abolished and the credit mechanism
under which ECUs are created would have
to be brought under the control of the
central institution.

Essentially, the ECU would be created
ex nihilo by the central institution

would it still be an instrument
for settlement of imbalances,
probably yes →

BBk buys FF → DM supply increases;
with unchanged circulation
BBk has demand for ECU
sells FF balances to Bdt

Bdt sells DM → FF supply declines,
with unchanged circulation
ECU held by

But it should

→ BBk no need

↓ would ECU settlement be acceptable?

The first component, the autonomous balance sheet of the central monetary institution, could be implemented by giving it a capital formed by contributions of international reserves from national central banks. In return, national central banks would receive shares of the central monetary institution and would therefore share in its profits and losses.

The second component, control over the liabilities of the central monetary institution, could be achieved by giving the central monetary institution the power to determine the conditions under which it supplies credit to the national central banks. The central monetary institution could be given wide discretion in these decisions in analogy to the direction national central banks exercise in their transactions with commercial banks.

The liabilities of the central monetary institution could be expressed in official ecu. This would then require that the current mechanism for creating official ecu, the revolving swaps, be abolished because the amount of ecus created this way depends on such exogenous factors as the gold price and the U.S. dollar exchange rate. These swaps could be replaced by an initial contribution of international reserves. The credit mechanisms that constitute the other channel of ecu creation would also need to be brought under control. This could be done by giving the central monetary institution the power to grant member central banks discretionary credit in ecu, in the same way as a national central bank finances commercial banks through open market or rediscount operations. In turn, the existing credit mechanisms could be significantly reduced, by limiting their duration, limiting their applicability to marginal intervention, eliminating automatic renewals and making them more expensive.

The creation is abundant,

The building of new systems with
central institutions would have
to be made compulsory



but this would not only be
upper limit

↓ see development
of institutions

how the system would work in detail
would depend on its technical specifications

(a) 1) main source of revenue
in relation to central bank institutions



would place an upper limit on the amount
of base money that can be created

- how to determine the appropriate total amount
of new credit in the E, which would be used
to meet the requirement for all central banks
in the E?

- how to distribute this money in accordance
with central banks

- since ex. r. imbalances affect the
monetary base

what to do

a) create ECU imbalances,

b) & imbalances

at 2) see above, unbalanced & imbalanced
in ECU would work, but then
no constraints on competitive pressures
extreme; all FF are bought up by
DM

However, such a reduction in the availability of the existing facilities denominated in official ecu would not be required, provided it is clear these facilities could not be drawn upon to make up for any shortfall of required reserves. But in that case, there should in principle be no substitution between the ecu in the two roles as an asset for intra central bank settlements and as required reserves. The interest rate on the two would be different; that on the former would continue to be an average of interest rates on the component currencies, that on the latter would be set by the ESCB to reflect the degree of scarcity of required reserves which the central institution wishes to produce, as explained below.

The third component, creating a demand for required reserves, that constitutes the main liability of the ESCB, could be organized by requiring member central banks to hold deposits of official ecu with the central monetary institution in the form of reserves.

Basis for reserve requirements

(a) Liabilities of national central banks : Monetary base

For example, the ESCB could have the power to ask member central banks to hold compulsory reserves in ecu, amounting to the equivalent of a certain percentage of their total liabilities, or of the increase thereof. The reserve requirement in official ecu would link the supply of base money by member central banks and therefore also the aggregate money supply in the Community to the amount of official ecus created by the ESCB.

The manner in which the central monetary institution could manage this system would be very similar to that of a national central bank. For example the governing body of the central monetary institution could decide each year how much money should be created in the Community in order to support economic activity in a non inflationary environment. Given the required reserve coefficient applied to the monetary base of each national central bank this could then be translated into a target for the creation of official ecus. Since total monetary base creation in the participating countries would also be affected to the extent

6) δ induction

BB4 says $\delta \rightarrow$ not up $\rightarrow$ minimum measure
concluded

inductive δ induction

total system + distribution are
closely linked

- a) central banks may not use up
their own of measure
- b) still of less than one to
another

that they undertake net institutional interventions in third currencies, a necessary complement of this objective would be guidelines regarding intervention policy in third currencies, especially the dollar. National central banks could conduct autonomous foreign exchange operations against third currencies, however, they would have to sterilize the monetary effects of these interventions by offsetting changes in credit extended to domestic counterparts.

The management of the system would be different in stage 2 and stage 3. In stage 2 the supply of official ecus would be less rigidly controlled by the central monetary institution. For example, some very short term financing might still be available and member central banks might have the right to acquire ecus for international reserves to meet requirements. These degrees of freedom could be gradually reduced as stage 3 approaches to ensure a smooth passage to this stage where the central monetary authority would need to have absolute control over all channels of official ecu creation.

The implementation of such a system leads to a number of issues :

(i) Allowing for differences in national monetary multipliers

National monetary base multipliers differ considerably at the margin and on average, in particular because of different (and sometimes absent) national reserve requirements on commercial banks. This would imply that even with a given total quantity of official ecu a transfer of official ecus from a national central bank with high reserve requirements and consequently a low multiplier to another one with lower reserve requirements and therefore a higher monetary base multiplier would increase total liquidity in the system and would thus have an unwanted expansionary effect. This would not represent an entirely new problem since in national systems different reserve coefficients usually apply to different types of deposit so that a shift across deposits always affects the observed multiplier. The initial allocation of official ecus could take the differences in multipliers into account, the problem would therefore become relevant mainly in the subsequent operations of the system. While not new, the problem would, however, be an additional element of uncertainty and it would require the central monetary institution to observe carefully

not
limited
X
could
be
achieved

the distribution of official ecus and to intervene, adjusting the overall quantity it makes available to the system, in order to offset the net expansionary or contractionary effects that arise from transfers of official ecus between national central banks. To the extent that differences in national base multipliers are caused mainly by differences in reserve requirements the problem should become less acute as the integration of European financial markets leads national central banks to some convergence in national reserve requirements.

(ii) Operational objectives related to interest rates

At first sight, the scheme would appear to imply that the main monetary policy instrument has to be the aggregate of national monetary bases. However, the central monetary institution might also be guided in its supply of official ecu by national interest rates. Given fixed exchange rates national interest rates would tend to stay within a very narrow band so that the central monetary authority could also target some average level of interest rate. If liquidity increased too much in any given country, interest rates in that currency would tend to fall and there would be tensions on the foreign exchange markets. The appropriate response of the central monetary authority would then be to call back official ecus to induce the national monetary authorities to rein in the expansion of liquidity.

how does
this
work
in practice?

(iii) Absence of a true market for reserves

A more fundamental issue arises from the differences in the behaviour of commercial banks and national central banks, which are official institutions. National required reserve systems work predictably and affect all banks in the same manner because commercial banks act mainly on the profit motive. There is therefore in most cases an active market for the assets that can be used to satisfy national reserve requirements in which the price, i.e. the interest rate, determines whether any given bank is willing to supply or demand

additional reserves. It is unlikely that a similar market will develop among national central banks. If the central monetary institution expands the supply of official ecu it could therefore not be certain that all national central banks would expand their national monetary base, and individual national central banks wishing to expand more than others, perhaps because of stronger growth in economic activity could not rely on a market to obtain additional official ecu. The system might then work asymmetrically if the national central banks with excess or free reserves in ecu refuse to sell them to the others. This asymmetry in the system might be mitigated to the extent that exchange rates are fixed through the working of the intervention obligations. The currency of the country whose monetary base was expanding less than the average would come under upward pressure on the foreign exchange markets. If intervention obligations work symmetrically this would then imply that this country needs to intervene which would tend to have an expansionary effect on its monetary base, unless the monetary authorities of that country were able to sterilize the impact of these interventions.

(iv) Currency substitution

The absence of a market mechanism to distribute official ecus across countries would be particularly important if there is currency substitution in the form of large international shifts of certain deposits across the currencies of the system. Such shifts would net out for the entire system, so that the central monetary institution would not need to adjust the overall supply of official ecu, but they would necessitate a redistribution of official ecu across national central banks because they would lead to an increase in the monetary base of the country towards which the currency substitution was going.

(v) Allowing for the effects of realignments

Similarly, a realignment or just a change in the market exchange rate inside the bands would imply that the central bank of the devaluing country would be left with free reserves of official ecu. The central banks of the remaining currencies, which would appreciate against the ecu would instead need to acquire additional official ecu. There they could obtain only from the central bank of the devaluing currency, which would thus be put in a strong position.

In general changes in market exchange rates would also have an effect on the overall demand for official ecu reserves if the distribution of monetary bases across the Community does not correspond to the ecu weights. Since for some countries the ecu weights differ considerably from the shares in the total Community monetary base this implies that in stage 2 the central monetary institution might have to adjust the overall supply of official ecu continuously to offset these effects. To the extent that exchange rates become more stable towards stage 3 this effect should, of course, become minor.

(b) Assets of national central banks : credit to the domestic sector

The potential problems mentioned so far would appear to be less severe if the required reserves national central banks have to deposit with the central monetary authority were based on the credit extended by national central banks to the domestic sector instead of the total monetary base. In this formulation the instrument would impinge more directly on all elements of monetary financing of the public sector, directly through credit extended to it, or indirectly because a central bank is undertaking larger open market purchases at a time of major public deficits.

also
on
credit
to bank

Under this modified scheme the central monetary authority would estimate the overall amount of domestic credit expansion that was compatible with approximate stability in prices (allowing for anticipated reserve flows) and would expand the supply of official ecu by the same proportion. The overall expansion of the monetary base in the system would then be the sum of the national domestic credit expansion plus the net effect of unsterilized foreign exchange markets interventions against third currencies. The central monetary institution would therefore have to take a stance on the desired overall amount of intervention. This could be achieved by allowing the central monetary institution to intervene directly in the market or by subordinating national central bank interventions to the guidelines of the central monetary institution. Given the target rate of domestic credit expansion there would be no presumption that these interventions could be sterilized.

Under this modified system differences in national money base multipliers would remain a source of shifts in overall supply of money for any given overall domestic credit target. But the absence of a market mechanism to distribute official ecus would become less important since shifts in money demand due to currency substitution could be accommodated through reserve flows without any need for transfers of official ecu. For example, if the demand for deposits in a certain currency increases, either because of a shift in the activity in the country, the monetary base of that country could expand following the interventions the monetary authorities might have to undertake. Since the cause for the expansion of the monetary base would be reserve inflows at a constant domestic credit of the central bank there would be no need for this central bank to acquire additional official ecus. The opposite reserve flows that would take place in other countries would also not require any transfers of official ecu.

time, but
currency
money
supply
change
i.e. with a
DH target
which is difficult
to achieve
perhaps

(c) Domestic credit expansion by the national banking system

In principle, the differences in national monetary base multipliers would be incorporated fully into the system of monetary control, if the reserve requirements were based not on the domestic sources of money base creation, but on domestic credit expansion in the total national banking system, i.e. on the domestic sources of broad money creation. Such a system would still leave each central bank free in its choice of which instruments it wanted to use to discharge its accountability for controlling credit expansion in its country; for the same reason it would not necessarily contribute to the convergence in the conduct of policy which is part of the purpose of stage 2. It might also leave too much slack in the control mechanism. Despite the more direct linkage to a natural intermediate objective underpinning fixed exchange rate - domestic credit expansion - it may on balance have disadvantages compared to the first two variants which are based on items that appear directly on the balance sheet of the central banks (total monetary base creation or the domestic component thereof) or compared to the additional possibility of imposing requirements on commercial banks directly which is discussed below.

How?

Three-tier systems and the evolution towards a common currency

In the three-tiers systems described so far the central monetary institution would not have any direct contact with commercial banks or the financial markets in general. This would imply that it would be difficult to use the same operational framework beyond stage 3 since the European Central Bank that would manage the common currency would presumably have direct transactions with commercial banks, as does any national central bank at present. In contrast an operational framework that allowed the central monetary institution to deal directly with commercial banks might, in principle, be adaptable to stage 4 without fundamental institutional changes. Moreover, if the central monetary institution were able to make some transactions directly in private financial markets it would be in a position to have some direct influence on liquidity conditions and would not have to rely on national central banks to follow its indications.

Alternatives and complements : Direct interaction ESCB - financial markets

a) Open market operations

One way to give the central monetary authority the possibility to intervene directly in financial markets would be to allow it to make open market transactions in national markets. For example, the central monetary institutions could use the securities it has acquired from the national central banks for such open market transactions.

In order to guarantee that initially the influence of the central monetary institution remains modest compared to that of the national central banks it would be useful to impose some limits on the total amount of purchases (and sales) the central monetary institution can make within any given period. This might be especially important at the start, when the central monetary institution would mainly have to make purchases since its initial stock of securities would be small. These limits could be raised overtime to allow the relative importance of the operations of the central monetary institution to increase gradually, until, towards stage 3, they become more important than the operations of each single national central bank.

When +
how did
it acquire
them
securities?

against
which?

b) Reserve requirements on commercial bank deposits

A different approach that would allow the central monetary institution to have some direct impact on conditions in the financial markets could be pursued by imposing a uniform European reserve requirement on commercial bank deposits or on increases thereof. All Community commercial banks would have to hold a certain, small fraction of their deposits as compulsory reserves with the central monetary institution. The only asset that could be used to satisfy this reserve requirement would be "federal funds" which could be denominated in ecu.

The aggregate supply of these federal funds would be strictly under the control of the central monetary institution, since that would be the only institution that could issue them. The distribution of the total across countries and banks would be left to a federal funds market where commercial banks could trade among themselves the deposits with the central monetary institution they need to satisfy the European reserve requirement. This scheme would therefore work like national reserve requirements, but on a European scale. The European reserve requirement could therefore be in addition to and independent of national reserve requirements.

How do
you
get
the
ecu
circulation

This approach would imply that the central monetary institution would intervene directly in a market that reflects system wide liquidity conditions. This might be preferable if the tasks of the central monetary institution are to be concerned with overall conditions as opposed to the specific conditions in national markets. It would also be possible to combine this approach with the idea sketched out above, by imposing limits on the total amount of open market transactions the central monetary institution would be allowed to undertake within a given period.

yes, but
could be
between the
two.

This approach could be implemented by giving the central monetary institution the power to impose a compulsory reserve requirement on all deposits of Community residents with Community commercial banks. To give banks access to deposits with the central monetary institution

the latter could initially buy the appropriate amount of securities in the market. These securities could be denominated either in ecu, or in national currencies, provided the proportion of the different national currencies correspond to the ecu weights. Once the initial amount of federal funds has been created the central monetary institution could regulate the total amount of federal funds in the system simply by additional open market purchases or sales.

Through its open market conditions the central monetary institution would be able to influence directly overall liquidity conditions in the system. If it makes an open market sale, which would reduce the total amount available, commercial banks everywhere in the Community would tend to restrict their deposits because the interest rate on the federal funds market would rise. By limiting the total amount of federal funds that the central monetary institution makes available to the system it would always be in a position to limit total liquidity creation.

yes, but
it's
expensive!

This approach would be compatible with different operating procedures for the central monetary institution. For example, it could choose an interest rate target and restrict the supply of federal funds whenever the actual ecu or federal funds interest rate fell below the target and vice versa if interest rates go above the target. But it could also target the quantity of federal funds by not intervening in the federal funds market and letting the interest rate adjust to bring supply and demand in equilibrium.

Different operating procedures would presumably be appropriate for stages 2 and 3, but the mechanism in itself would not have to be modified for the passage to stage 3. The different ways of allowing the central monetary institution to have transactions with the market would have in common that they would require only some 'enabling legislation' to be enacted initially. The subsequent evolution of the system, also with regard to its symmetry, would then be gradual and could even lead to a smooth passage to stage 4 without additional substantial institutional changes. In effect the central monetary institution would, from the beginning, act, at least in some respects, as a European central bank.

Concluding remarks

This annex has discussed in an illustrative way various methods by which an ESCB could influence the overall rate of money and credit expansion in the Community in stages 2 and 3 of the process towards Economic and Monetary Union as outlined in Part II of the Report. The basic premise of the annex is that it would not be enough to establish the necessary credibility for the new institution to formulate monetary objectives collectively, if the ESCB were not to have attributed to it one or more policy instruments putting it in a position to check departures of aggregate money and credit expansion from the agreed path.

Reserve requirements seem to provide the most direct method for achieving this linkage from instruments to objectives. It is the prime method by which central banks historically have achieved monetary control in most countries. The observation that varying reserve requirements to-day plays a more limited role in influencing national banking systems is less relevant for the issue of how to assure control of the overall money and credit expansion in stage 2 and 3. In recent years the banking system has in most countries become heavily indebted to the central bank and hence dependent on the terms on which marginal accommodation of reserve needs is provided. The mechanisms that are suggested in this annex illustrate ways in which an analogous influence may be brought to bear through a reserve requirement system on the relationship between a central monetary institution and the participating central banks (the three-tier system). The annex has also discussed how alternative or complementary schemes could provide a direct contact between the central institution and financial markets. This last element seems desirable to assure a smooth passage to the final stage when a European Central Bank manages the common currency via direct interactions with the Community financial markets.

The illustrations in this annex have throughout taken as their point of departure the principles on which an ESCB could develop as described in Part II of the Report and the principles of the step-by-step approach outlined in Part III.