

GERRARD & NATIONAL

Monthly Economic Review

No. 36, June 1992

Contents	Page No.
Commentary on the economic situation	1
Summary of research paper	2
Research paper - Topic: The logistical requirements of a single European currency	3
Statistics this month - Calendar of UK and US release dates	<i>Outside back cover</i>

The *Gerrard & National Monthly Economic Review* is intended to encourage better understanding of economic policy and financial markets. It does not constitute a solicitation for the purpose of sale of any commodities, securities or investments. Although the information compiled herein is considered reliable, its accuracy is not guaranteed. Any person using this *Review* does so solely at his own risk and Gerrard & National shall be under no liability whatsoever in respect thereof.

Gerrard & National Holdings PLC

Gerrard & National Limited

Gerrard & National Securities Limited

Lombard Street Research Ltd.

33 Lombard Street, London, EC3V 9BQ Tel: 071-623 9981 Tlx: 883589 Fax: 071-623 6173

GNI Limited
Colechurch House,
1 London Bridge Walk,
London, SE1 2SX
Tel: 071-378 7171
Tlx: 884962
Fax: 071-407 3848/9

GH Asset Management Ltd.
Colechurch House,
1 London Bridge Walk,
London, SE1 2SX
Tel: 071-407 2597
Tlx: 884962
Fax: 071-407 3845

Gerrard Vivian Gray Limited
Burne House,
88 High Holborn,
London, WC1V 6LS
Tel: 071-831 8883
Tlx: 887080
Fax: 071-831 9938

LM (Moneybrokers) Limited
32 Lombard Street,
London, EC3V 9BE
Tel: 071-929 3171
Tlx: 928034
Fax: 071-621 1652

Commentary on the economic situation

Conflicting monetary trends in Britain and Germany

ERM continues to prevent much-needed lower interest rates

The pound's membership of the European exchange rate mechanism continues to bedevil British monetary policy. Many items of evidence confirm that the post-election bounce in spending has fizzled out and that lower interest rates are justified to encourage economic activity. But lower interest rates are precluded by the pound's position in the lower half of its ERM band, while German economic activity and monetary growth remain surprisingly high, and the Bundesbank is in no hurry to reduce deutschemark interest rates.

The sluggishness of domestic demand is most obvious in the personal sector's decisions. Base rates of 10% are beneath the average level in the 1980s and significantly lower than the 15% figure which prevailed from October 1989 to October 1990. But the classic interest-rate-sensitive parts of the economy - notably housing - remain depressed. Housing starts in the first quarter were lower than in the first quarter 1990, which was itself a third down from the peak figure in the boom (in the fourth quarter 1988). Still more ominously, building societies' net new mortgage commitments in the first four months were less (at £11,194m.) than in the first four months of 1991 (£12,405m.). April was particularly weak, with the commitments figure almost 22% down compared with a year earlier. It is possible that May saw an improvement, as post-election home-buyers arranged finance, but continued falls in the Halifax house price index in both April and May argue otherwise. A further point needs to be strongly emphasized here. In our November 1991 *Review* ('The housing ladder has fallen down') we identified the main reason for the feebleness of mortgage demand as the effect of falling house prices in wiping out equity and reducing homeowners' ability to put up deposits for larger houses. With house prices falling even more since then, yet more equity has been eliminated.

Credit demand still strong in Germany

If the Treasury and the Bank of England were still free agents, the malaise in the housing market and other disappointments would probably have led to another 1% or 2% off base rates by now. But the latest developments in Germany re-emphasize the harshness of the ERM constraint. The Bundesbank's *Monthly Report* has the same sort of information (on bank lending, lending commitments, funds promised for the housing market) that has proved so useful in analysing the British economy. The numbers in the April issue of the *Report* make gruesome reading. At the end of February German banks had given fixed-rate medium- and long-term loan commitments, not yet taken up, of 130.8 billion DM, 24.6% higher than February 1991 and almost 60% higher than in February 1988. Meanwhile mortgage lenders' commitments in February were 31.8% higher than a year earlier. The Bundesbank may wait many months yet before it feels that lower interest rates can be reconciled with the much-desired deceleration in broad money growth.

Summary of paper on

'The logistical requirements of a single European currency'

Purpose of the paper Economists have discussed at great length the so-called "convergence requirements" for European economic and monetary union laid down in the Maastricht Treaty. But these requirements are sufficient only for the success of a system of fixed exchange rates. The paper argues that further requirements - the logistical requirements of EMU - would have to be met if the nations of Europe were to create a full monetary union.

Main points

- * Three distinct types of exchange rate arrangement between nations can be envisaged - a system of fixed exchange rates, an exchange rate union and a monetary union. The Maastricht Treaty proposes a move from a system of fixed exchange rates (i.e., the ERM) to a monetary union by 1st January, 1999, at the latest.
- * A system of fixed exchange rates and an exchange rate union are associated with separate currencies, central banks and governments, although in an exchange rate union the currencies of one country circulate in other members' territory. A monetary union envisages several governments and countries sharing the same central bank and currencies.
- * European monetary union will necessitate the amalgamation of national central bank balance sheets. The new European Central Bank will have to perform the traditional functions of a central bank and, in particular, serve as banker to both the Government and the banking system.
- * Certain logistical requirements will have to be met if the ECB is to perform these functions. These requirements are that:
 - i. the ECB arranges the short-term financing of European governments' deficits and the long-term funding (i.e., non-bank financing) of their debts,
 - ii. the ECB manages governments' foreign exchange reserves,
 - iii. the ECB takes short-term deposits (i.e., cash reserves) from Europe's banking systems, and
 - iv. the ECB provides lender-of-last-resort facilities to the banking systems in emergencies.
- * On close examination it emerges that these requirements will be difficult - indeed, probably impossible - to meet if there are several governments and only one central bank. The nations of Europe would be better to pursue an exchange rate union instead of the ambitious monetary union proposed in the Maastricht Treaty.

This paper was written by Professor Tim Congdon. A longer version will be published in the next few weeks as a Bruges Group pamphlet.

The logistical requirements of a single European currency

Why the debate on the convergence requirements misses the point

Debate on EMU misses vital practical and logistical issues

The forward momentum of European economic and monetary union (EMU) has been checked by the Danish referendum result, but the debate rolls on. Millions of words continue to be written on the subject every week. The purpose of this *Review* is to argue that, despite the flood of words, most of the discussion until now has missed the point. Indeed, its central argument will be that certain vital practical issues - the logistical requirements of EMU - have been so thoroughly neglected as to raise basic questions about the intentions and motives of the political leaders involved. It will suggest that they have not understood the essential nature of the enterprise on which they have embarked. Our starting-point is to distinguish between three types of exchange rate arrangement - a system of fixed exchange rates; an exchange rate union; and a monetary union. As we shall see, the discussion is hampered by some uncertainty about which of these is supposed to define EMU. Our main claim will be that - if they ask themselves honestly what they want - Europe's peoples and political leaders want an exchange rate union, not a monetary union. But, if the Maastricht Treaty were ratified, they would be sleep-walking towards monetary union. It would be better for all concerned if they woke up soon, so that the farce of the Werner Plan is not repeated. (The Werner Plan was a similar attempt to forge EMU and to introduce a single European currency, for which the final deadline was 31st December 1980!)

Three distinct types of exchange rate arrangements 1. A system of fixed exchange rates

A system of fixed exchange rates recognises the separate existence of the participant currencies (and so of central banks and governments), but fixes the middle exchange rates between the currencies and the maximum permitted variation around the middle rates. It is usually agreed that some exchange rate variation is to persist, with the 2 1/4% narrow band of variation in the European exchange rate mechanism being an obvious illustration. Because of the continuing fluctuation in exchange rates, currencies circulate only within their own countries' borders. (Their value in other countries is too uncertain for them to be acceptable in everyday transactions.)

2. An exchange rate union

An exchange rate union also recognises the separate existence of participant currencies, but the middle exchange rate is fixed "irrevocably" and with (almost) no scope for variation. As a result, the same currency can be used - to some extent - for transactions in two (or more) members of the union. Good examples of exchange rate unions are the relationships between the British and Irish pounds before Ireland joined the European exchange rate mechanism in 1979 and between the Belgian and Luxembourg francs at present. The acceptability of British notes in retail Irish transactions in the 1960s and 1970s is striking, since the British pound was not legal tender in Ireland and shopkeepers would have been within their rights to refuse it. An exchange rate

union can be regarded as a development of a system of fixed exchange rates. It may arise in an evolutionary way, simply because people find it convenient, and it does not necessitate any radical upheaval in political structures. Indeed, the dividing-line between a fixed-exchange-rate system and an exchange rate union is rather blurred.

3. A monetary union A monetary union is an altogether different matter. It is defined by the extinction of distinct national currencies, where these had been issued by separate central banks. Instead there is a single currency issued by a single central bank. A number of German commentators have claimed that a monetary union in this sense is not viable unless it is associated with political union. In other words, if Europe were somehow to introduce a single currency and a single central bank, it would have to establish a single government too. If this argument is right, monetary union - unlike an exchange rate union - has drastic consequences for national sovereignty.

A monetary union, unlike an exchange rate union, has drastic political implications

This point - that the establishment of a monetary union has potentially revolutionary implications for the political constitutions of its members - is basic. But in their analysis of the Maastricht Treaty, which is ostensibly concerned with a monetary union, economists in Britain have barely discussed the political aspects. Instead they have focussed on a number of "convergence requirements" (budget deficit less than 3% of GDP; public debt less than 60% of GDP; inflation in line with the EC average) which have to be met by EC members in Stage Two of EMU and are deemed to be preconditions for a move to Stage Three. We shall argue that there is a very serious misunderstanding here. The convergence requirements are necessary and sufficient for the long-run success of a fixed-exchange-rate system or an exchange rate union; they are certainly not sufficient for the monetary union envisaged by full EMU.

Public debts and deficits as % of GDP in 1990

Country	Borrowing requirements of General Government		Gross public debt	
	1990	1990	1990	Change 1982-90
Belgium	5.8		129.3	27.0
Denmark	1.4		55.3	2.3
France	1.2		46.7	6.6
Germany	3.2		44.6	5.1
Greece	18.4		47.3	
Ireland	3.4		117.7	25.5
Italy	10.1		99.9	33.5
Netherlands	5.4		83.0	27.5
Portugal	6.0		66.0	n.a.
Spain	3.1		43.2	14.2
UK	0.3		36.1	-16.9

Sources: *European Economy*, December 1990, and OECD, *Economic Outlook*, no. 49, July 1991. Taken from CEPR *Monitoring European Integration*, p.22

Monetary union would require agreement on certain logistics as well as economic convergence

As we shall see, monetary union cannot be contemplated unless the nations involved have reached a further understanding about a number of other matters, in particular, about how they see the new European Central Bank actually operating. The operation of the ECB raises fundamental questions about the various governments' ability to govern and so about national sovereignty. Once these issues are recognised, it emerges that the Maastricht Treaty is an incomplete specification of EMU. Even if the convergence requirements had been met by all the countries in mid-1996 or in mid-1998 (which anyhow looks doubtful), Europe could not then leap to a single currency. There would still have to be a great deal of negotiation and probably another treaty before monetary union could take place. As the German commentators have correctly perceived, that treaty would need to have far more detail on the political repercussions of EMU than contained in the Maastricht Treaty.

We have seen that the crucial difference between a system of fixed exchange rates and a monetary union is that one assumes the separate existence of several currencies and central banks, whereas another is defined by the unification of currencies and the formation of a single central bank. Any analysis of EMU has therefore to consider how the single central bank would actually come into being and how it would work. Clearly, the separate national central banks would have to amalgamate their balance sheets and uniform operating procedures would have to be agreed for the new institution. This agreement would have to specify the ways in which the ECB would fulfil the two main functions of any central bank - to serve as banker to the Government and banker to the banking system.

**Central banks have two main functions, to serve as,
i. banker to Government, and
ii. banker to the banking system**

Central banks' two traditional functions are related. The Government is the most credit-worthy entity in any economy. As lender to the Government, the central bank has the best-quality assets of any bank and is the safest banking organization. (This would be true even if the central banks' liabilities did not have legal-tender status. But in practice nowadays they do have such status and the central bank is virtually as credit-worthy as the Government.) As the safest banking organization, the central bank is the appropriate place for banks both to leave their cash reserves and to seek lender-of-last-resort assistance in a crisis. Indeed, the relationship between commercial banks and the central bank is at root a mutually beneficial business arrangement. Commercial banks leave non-interest-bearing deposits with the central bank, as a result of which their profits are reduced. (It would have been more profitable to have bought interest-bearing liquid paper.) But banks forego profits in this way in the belief that the central bank will lend to them in an emergency. In all countries there is an implicit contract of this nature between the central bank and the commercial banks.

What will need to have been agreed by mid-1996 for a single European central bank to start operations in early 1997 or (to give the last date envisaged in the

Maastricht Treaty) on 1st January 1999? We may discuss the logistical requirements for EMU under headings which reflect the two recognised central banking functions - the requirements for the ECB to serve as banker to the governments of Europe; and the requirements for it to be banker to Europe's banking systems. (There is a certain awkwardness in the last sentence. Should we not instead be saying, "the requirements to serve as banker to *the* Government and *the* banking system of Europe?". The awkwardness is inherent in the subject-matter.)

***The ECB as
banker to
Europe's
governments
1. Operations in
ECU, i.e. the
domestic
currency***

Traditionally, a nation's central bank has served as banker to the Government in both the domestic currency and in foreign currencies. The ECB would have to assume these functions in the European context. Operations in the domestic currency (i.e., the ECU from early 1997 or 1999) would have the most fundamental bearing on European governments' powers. The ECB would have to take over various existing arrangements in the different countries and somehow make them all work. At present most governments have a working balance at the central bank which fluctuates from day to day, depending on the ebb and flow of tax receipts and government disbursements; they also have automatic access to an overdraft facility.

***The present
arrangements for
short-term
financing of the
Government in the
UK***

In Britain's case the working balance is grouped under the category "Public deposits" on the liability side of the Bank of England's balance sheet and is typically about £100m. The overdraft facility is called "Ways and Means Advances" and is part of the Bank's assets, but the Government only rarely has to borrow in this way. Far more important quantitatively than Ways and Means Advances are Treasury bills, which are sold in large amounts (never less than £100m. and sometimes much more) at the weekly tender. The purpose of the tender is to sell Treasury bills to banks and non-banks, so that their issue does not lead to undue expansion of the Bank of England's own balance sheet, which might be inflationary. However, in practice the Bank does take substantial quantities of Treasury bills onto its own balance sheet as a by-product of money market operations. Its total holdings of government securities (i.e., Treasury bills, mostly) are very large. In recent years they have often exceeded £10b. and represented over three-quarters of the Bank's assets. The Government's powers to borrow via Ways and Means Advances and to issue Treasury bills come from Parliament. It needs to be very strongly emphasized that the power to borrow from the central bank is akin to the power to levy taxation. As the Bank's note liabilities are legal tender, government borrowing from the Bank is effectively a resource transfer from the holders of the notes (i.e., the general public, mostly) to the Government. The net effect of the present system is that the Government can borrow at will from the central bank and, indeed, the banking system.

***The ECB could not
give overdrafts to
governments***

The question is, "what would happen if the Bank of England no longer had a separate existence and was instead the regional office/subsidiary of the ECB?". As at present the British Government would need to have an account - like its

Public Deposits at the Bank of England - with the ECB. The Treaty does indeed state - in article 21.2 of the Protocol on the European System of Central Banks - that, "The ECB and the national central banks may act as fiscal agents" for governments. However, article 21.3 says that "overdrafts or any other type of credit facility by the ECB or by the national central banks" to governments and other public sector bodies "shall be prohibited". In other words, the Government would not retain the option to borrow via Ways and Means Advances.

With central bank overdrafts ruled out, the Treasury bill issue would have to be the British Government's principal short-term financing vehicle in the new single-currency environment, just as it is today. Presumably other European governments would follow the same route. The Maastricht Treaty does not appear to forbid this. However, certain vital practical questions remain unresolved, notably on the framework of Treasury bill issuance. In the pursuit of its monetary policy goals, the ECB would have to decide on the details of each Treasury bill issue. Would there still be separate Treasury bill tenders (or whatever) for each individual government, even though they would all be in the same currency? If so, who would decide how large such tenders might be? Or might there be a joint tender for all European governments? If there were a joint tender, how would the proceeds be distributed between the governments?

Treasury bill issues would remain important, but the logistics of TB issues unresolved

Yet more difficult questions relate to the ECB's holdings of different governments' debts. As we have seen, the Bank of England's holdings of UK Treasury bills are large and often the dominant element in its total assets. Moreover, when any central bank holds public debt it is effectively lending to the government concerned. A vital practical concern for the ECB would therefore be the proportion of its assets that it would be willing (or would be allowed) to hold in the form of each individual governments' debt. Would it be right if short-term Italian public debt (or French or British) came to represent over 50% of the ECB's assets? Should the ECB have complete discretion about which governments' paper it might acquire or should the Council of Ministers lay down criteria for eligibility? Specifically, should the ECB and/or the Council of Ministers set quotas for the amount of each government's short-term debt that might be included in the ECB's assets? The risk would be a collision between the financing objectives of Europe's governments and the monetary control objectives of the ECB, between national politicians and the central bank bureaucracy. The governments would undoubtedly like to raise as much money as possible from Treasury bill issuance (i.e., cheap borrowing from the central bank and banking system), but the ECB would - in all probability - like to limit its purchases of Treasury bills, because expansion of its balance sheet would be inflationary.

One point needs to be very strongly emphasized. A single European currency would carry greater inflationary temptations than the existing multi-currency situation. At present every European country has one government, one currency

Responsibility for inflation more difficult to identify with ECB than at present

and one central bank. If a country suffers from rapid inflation (because of excessive growth of the central bank's balance sheet, i.e., high-powered money), it is clear where responsibility lies. The government and central bank concerned are undoubtedly to blame. But the position is more confused if there are several governments, one currency and one central bank. If a particular government is somehow able to borrow large amounts from the ECB, any resulting inflation can be blamed on "Europe" as a whole or the actions of other governments. The identification of responsibility is much more complicated.

Logistics of government financing raise vital questions about sovereignty

The only way for the ECB to maintain undisputed control over monetary policy would be for it to instruct governments on the permitted size of their short-term and long-term borrowings, and on the maturity profile of their debt. In other words, it would be an ECB official, not Parliament, that would sanction British government borrowing and determine its form. The withdrawal of the British Government's automatic right to borrow from the central bank strikes at the very essence of its ability to govern. Lord Tebbit, when he was still in the House of Commons, was correct to complain that EMU would reduce the British Government, and other European governments, to the status of local authorities. ECB decisions about public finance would be highly controversial, just as decisions about local government finance are controversial in the context of nation states. They would inevitably arouse intense feelings of patriotic pride and national identity. The acrimony would be heightened by the marked differences that at present exist between European countries in arrangements for the short-term financing of budget deficits, in the maturity profile of public debts and in the amount of central bank financing of government. The Maastricht Treaty has rightly tried to pre-empt some of these issues by laying down restrictions on budget deficits and public debt. But it has avoided the many highly contentious nitty-gritty technicalities. Ultimately these technicalities boil down to one question, "who would give orders to whom about what?". To be more direct and polemical, in what circumstances would the ECB bureaucrats give orders to the politicians rather than the politicians give orders to the bureaucrats?

2. Operations in foreign currencies

Enough has been said to show that the Maastricht Treaty is cursory, superficial and inadequate as a guide to how the ECB might act as banker to the governments of Europe in ECU (i.e., domestic currency) transactions. The Treaty considers the second dimension of central banks' involvement in public finances - namely, their transactions in foreign currencies - in much more detail. Remarks relevant to foreign exchange intervention and exchange rate policy appear in articles 105 and 109 of the Treaty, and articles 3, 23, 30 and 31 of the Protocol on the ECB. The subject has clearly exercised the drafters of the Treaty and other officials involved.

However, the outcome is far from satisfactory. Over the last 20 years events in Britain and elsewhere have taught one lesson time and again. Because external

Maastricht Treaty more detailed on foreign exchange operations, but still leaves scope for much confusion

and domestic objectives in monetary policy are frequently in conflict, the two dimensions of monetary policy need to be consistent and they should ideally be under the control of a single policy-making authority. If one set of policy-makers is wedded to an exchange rate target and another to domestic monetary control, squabbles and muddles are inevitable. (The row between Mrs. Thatcher and Mr. Lawson about the European exchange rate mechanism in early 1988 was a good example of the problem.) But the Maastricht Treaty enshrines the tension between domestic and external almost in successive articles.

Council of Ministers, not the ECB, appears responsible for ECU exchange rate

The ECB is supposed to be outside politics and independent of government. It is meant to be committed unequivocally to the objective of domestic price stability. Article 107 states, rather loftily, that, "When exercising the powers and carrying out the tasks and duties conferred upon them by this Treaty..., neither the ECB, nor a national central bank,...shall seek or take instructions from Community institutions or bodies, from any Government of a Member State or from any other body." In short, monetary policy, focussed on price stability, is to be the responsibility solely of the ECB. But article 109 says, "The Council [of Ministers] may, acting by a qualified majority on a recommendation from the ECB or *from the Commission* [our italics],...adopt, adjust or abandon the ECU central rates of the ECU within the exchange rate system." So - if the Commission and the Council of Ministers want the ECU devalued or revalued against the dollar - the ECB must abide by their decision. A devaluation or a revaluation is undoubtedly an act of monetary policy. In other words, monetary policy is *not* to be the responsibility solely of the ECB.

What has happened here? Why are politicians reluctant to cede control of the exchange rate, and also of course of foreign exchange intervention, to ECB officials? Part of the answer may be a wish to keep powers in their hands rather than in the ECB's. But that is not the whole story. Also crucial are the simple facts of ownership and control. As nations own their foreign exchange reserves, any government is concerned about how its reserves are used, and about the profits and losses which result. No matter how internationally-minded and Euro-centric political leaders might be, they would not easily be persuaded to spend their nation's precious foreign exchange reserves if they believed that the ECU were soon to be devalued against the dollar.

Inconsistencies about ECB's role arise because governments own foreign exchange reserves and they want to retain control

Decisions about when and whether to intervene, and the timing and size of exchange rate changes, are difficult in the context of a nation state, even though there is only one government, one set of foreign exchange reserves and one central bank. They would far more complex and contentious in a monetary union. Imagine the situation with several governments pooling their foreign exchange reserves to constitute the foreign currency assets of the ECB. Suppose also - despite the ambiguities of the Maastricht Treaty - that the ECB had full control over Europe's foreign exchange reserves and the ECU exchange rate,

on the grounds that the external and domestic aspects of monetary policy had to be properly integrated. Decisions by the ECB to intervene on the foreign exchanges would affect the value of the dollars, yen and so on that the governments of Europe had deposited with the ECB. At times the profits and losses might have material effects on the various countries' budgetary positions. (The Bundesbank's foreign exchange profits and losses have in the past been substantial compared with the German government's budget deficit.) The potentially large financial implications of foreign exchange operations explain why the various governments want to retain control over them. But the result - if the Maastricht Treaty were ever implemented - would be a massive compromise of the ECB's independence.

Conflict between ownership and control inherent in idea of monetary union, but would be overcome with political union

The conflict between national ownership of the foreign exchange reserves and supra-national control over them is inherent in the concept of monetary union. Of course, it could be overcome if the nations of Europe were to form a political union. In that case not only would the control of the reserves be vested in a central ECB, but also - and much more fundamentally - their ownership would be transferred to a central European government. But that is not envisaged in the Maastricht Treaty. Instead article 30.3 of the Protocol on the ECB says that, "Each national central bank shall be credited by the ECB with a claim equivalent to its contribution. The Governing Council [of the ECB] shall determine the denomination and remuneration of such claims". On this basis it is still the national central banks (and ultimately national governments) that own the reserves transferred to the ECB. Our analysis leads to an inescapable conclusion: unless monetary union is accompanied by genuine political union, the Maastricht Treaty is a recipe for confusion and wrangling about the ECB's foreign-currency operations. This verdict is justified both by the intrinsic incoherence of a single currency without political union and by the textual inconsistencies in the Treaty itself.

The ECB as banker to Europe's banking systems
1. The size of banks' cash reserves with the ECB

A conflict between British and Continental views

What, then, of the second group of functions of the ECB, those connected with its work as banker to Europe's banking systems? The subject can be dealt with more quickly as its importance has already been recognised, notably and unsurprisingly by the banking industry itself. The first problem is the size of the cash reserves that banks would need to hold with the ECB, if and when a single European currency were introduced. The debate on this subject has already been well signposted. There are two conflicting positions, which can be fairly termed the "British" and "Continental" views. The British view is that banks' cash holdings should be voluntary and determined by functional needs (i.e., to meet deposit withdrawals and to fulfil clearing obligations); the "Continental" view is that their cash holdings should be mandatory and determined by other policy objectives, such as banking prudence and the easy financing of government deficits. If the British view were upheld, banks' balances at the ECB might be under 2% of assets; if the Continental view won the argument, the figure might be anywhere between 5% and 15% of assets.

The outcome of this debate would have significant effects on banks' profitability, their mode of operation and the cost of banking services. In article 19 of the ECB Protocol the Treaty says that the ECB is to determine banks' minimum reserves and, "in cases of non-compliance", can "levy penalty interest and impose other sanctions". But nowhere does the Treaty indicate how high the minimum reserves might be. Considerable negotiation on this tricky subject is yet to come.

2. The ECB's lender-of-last-resort role

The second vital part of the ECB's role as the bankers' bank would be to serve as lender of last resort in emergencies. This is one of the most controversial tasks of any central bank. Because banking emergencies differ from each other in important and unpredictable ways, the central bank has to respond flexibly, pragmatically and with full discretion. Often there is a large element of rough justice in its actions. (Some banks are leant on to support weak institutions; certain institutions are allowed to go bust; others are not; and so on.) In the existing nation states of Europe, which have a single well-recognised government and a single long-established central bank, and where the individuals involved share the same culture and language, people tolerate the rough justice for the sake of the financial system (and the nation) as a whole.

Lender-of-last-resort role more easy to perform if a banking system enjoys the same culture, language and history

Would they do this if the ECB assumed the functions of the national central banks? How would an ECB with Frankfurt headquarters have reacted to the Johnson Matthey crisis? Would large German or French banks have felt obligated to participate in the "life-boat" for the UK secondary banks in the mid-1970s? It is surely enough to ask the questions to understand that the lender-of-last-resort responsibility would be far more difficult to exercise at a European level than at the national level. As it happens, the Maastricht Treaty says almost nothing about the subject. The omission has to be described as remarkable since the lender-of-last-resort role is the most basic rationale for the existence of a central bank. Historically, it has been central banks' acceptance of a lender-of-last-resort responsibility that has persuaded commercial banks to leave deposits with them.

Our conclusion is that the convergence requirements in the Maastricht Treaty are not sufficient for monetary union

We can now reach some conclusions. The widely-discussed convergence requirements of EMU are both necessary and sufficient for of a successful European system of fixed exchange rates, such as the ERM. They are undoubtedly also necessary for the creation of a single European currency. But they are not sufficient for it. In this paper we have argued that a monetary union is an altogether more ambitious enterprise than a system of fixed exchange rates or even than the most developed and final form of such a system, namely an exchange rate union. An evolutionary, "ever closer" crawl from a system of fixed exchange rates to an exchange rate union can occur while the governments, currencies and central banks of Europe retain their separate identities; the sudden leap to a monetary union, such as that foreseen by the Maastricht Treaty sometime between 1997 and 1999, would necessitate the

A number of logistical requirements have to be met as well

amalgamation of central banks' balance sheets and an agreement on the ECB's operating practices. The agreement would have to spell out a number of vital logistical requirements. These requirements are essential if the ECB is to serve traditional central-banking functions and are every bit as important as the more familiar convergence requirements. More specifically, if the nations of Europe do not abide by the logistical requirements we have analysed, the ECB could not act as banker to Europe's governments and or to its banking systems.

But Europe probably wants an exchange rate union, not a monetary union

After the setback of Denmark's referendum result, the time has come for the governments of Europe to reconsider the meaning and purpose of EMU. German public opinion is clearly hostile to the disappearance of the deutschemark. It may in coming months deliver an even more emphatic rejection of the idea of a single European currency, with a highly divisive impact on attitudes towards economic union throughout Europe. On 4th June Mr. Noelling, the Hamburg representative on the Bundesbank Council, said that Europe should not introduce a single currency, but instead keep the European Monetary System and gradually narrow the trading bands within which the currencies move. In other words, it should evolve towards an exchange rate union. There is surely much more popular enthusiasm for this voluntary and evolutionary process than for an imposed single European currency. The British would keep their pounds, the Germans their marks, the French their francs and so on, but they would all slowly, over decades, regard their currencies as increasingly interchangeable. Once they had become so interchangeable that they were indistinguishable for all practical purposes, full monetary union might - or might not - be sensible. That is a possible way forward. The Maastricht Treaty, like the ill-fated and almost forgotten Werner Plan, should be rejected.