File FEA/0000000509, Part D – Monetary Base Control

Original reference FEA\C\650\1440\02 D

PART 7

20/8/1981 – 22/10/1984

Pages 114-129

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FROM: T BAYOUMI

DATE: 5 June 1984

MR JOHNSTON

cc Mr Sedgwick
Mr Riley (o/r)
Mr Melliss
Mr Milne

SIMULATIONS WITH MO

Thank you for your minute of 31 May. In answer to your question as to whether optimal control simulations can be run on the May model base, the short answer is no. The optimal control software has been produced to run off the latest version of the public model, released last December. This version of the model is almost identical to the February internal model but not to the May version, which includes the new banking sector equations.

2. We therefore have the unappealing prospect of doing the non-optimal control work with an out of date banking sector or with a model with a different specification for the banking sector. Perhaps this is one of the questions we should discuss.

T Bayoumi.

T BAYOUMI

Mr Sedgwick C/10

A further draft of the new Annex on MBC. Comments welcome RL 22/

Monetary Base Control

14. Of all the aggregates, the wide monetary base seems to have borne the closest relationship to subsequent movements in inflation over the past few years and, since about 1980, some committed monetarists have favoured basing monetary policy on targets for the wide monetary base. The focus of interest in the monetary base has shifted somewhat in recent years. In the debate on monetary control that followed the 1980 Green Paper, many of those advocating monetary base control saw it primarily as a means of improving our control over the broader monetary aggregates. A key issue was whether we should introduce mandatory cash ratios to ensure the stability of the money multiplier (the link between the base and wider aggregates). Not everyone has abandoned this position, but it has been undermined by the poor performance of £M3 and PSL2 as predictors of the recent trend in inflation. By contrast, the case for treating the base as a target in its own right (as the Swiss do*) has, at least on the face of it, been strengthened by recent experience.

15. Adopting a target for base money would not necessarily involve any change in the Bank's operating procedures. We could, in principle, try to control the base by relatively infrequent discretionary changes in the Bank's dealing rates directly, just as we have in the past tried to control the broader aggregates. But this would be most unlikely to deliver anything like close control over a period of, say, 6-9 months - if

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*The Swiss experience is discussed in Annex 2.

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only because we remain extremely uncertain about the effect of changes in short term interest rates on the demand for base money. Were we to publish a target for the base, there would undoubtedly be pressure from some commentators for us to focus directly on the <u>quantity</u> of base money supplied*and allow short term interest rates to be determined as the by-product of the operations required to do this.

16. This could mean a number of things in practice. At one extreme, it could mean setting operational guidelines for the banking system's holdings of cash (that very small part of the base that is directly affected by money market operations).. The Bank would then determine the scale of its money market operations with this in mind, deliberately over - or under-assisting as necessary. Even if the banking system greatly increased the size of its operational balances at the Bank of England (as it would need to if short term control were sought) this could lead to considerable fluctuations in very short term interest rates.

17. The principal objection to this approach, however, is the difficulty of knowing what it would deliver. Control over the banking system's holdings of cash is not the same as control over the wide monetary base. Over 90% of the wide base consists of the public's holdings of notes and coin which is supplied on demand. Control over the wide base would only be achieved indirectly, as the operations needed to control the supply of cash to the banking system caused changes in interest rates that, in time, would affect the public's demand for currency. At present, there is no means of judging whether controlling bankers balances would generate a path for interest rates appropriate for this purpose. As explained in the Annex, no close, stable or predictable relationship currently exists between bank holdings of cash and any of the monetary aggregates, including the wide base. One might, in time, emerge; but until it had, and we knew something about it, we simply would not be in a position to define a sensible operational guideline for the supply of cash to the banking system.

18. A more feasible approach, in current circumstances, would be to focus directly on targets for the wide base itself. Even if the Bank always acts to balance daily shortages and surpluses in the money markets, it has a choice as to the rates at which it buys or sells bills to even out market imbalances. If it were trying to meet some quantitative objective for the base over a period of months, it could try and find the interest rates consistent with this path by a process of trial and error, raising dealing rates when base money is growing too fast, and lowering them when it is growing too

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*The base is the sum of the monetary liabilities of the monetary authorities and information on it is therefore available daily. The change in the base can also be expressed as the counterpart of the daily operations that are conducted to finance the CGBR and net foreign exchange market intervention by selling debt in all forms. See table 1 for definitions.

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slowly. Even this would require considerable judgement in deciding how much to allow interest rates to vary, or, equivalently, how closely to attempt to control the base over a given period. The interest sensitivity of the public's demand for currency (both the speed and size of the response) will clearly be critical in determining the degree of control that can be exercised for given interest rates, or, put another way, the variations in interest rates required to secure any degree of control over the wide base.

19. The familiar objection to monetary base control is that it would induce considerable volatility in short term interest rates which would increase the risks involved in maturity transformation and possibly damage the supply of financial services; and may be set off interest rate cycles that would have adverse effecte on the domestic economy both directly and, indirectly, by causing similar swings in the exchange rate. The preceding discussion suggest that risks would be real if we sought to exercise close control over the base, and if it turned out that the public's demand for currency were rather insensitive to changes in short term interest rates. Advocates of monetary base control would however claim compensating benefits: control over the base would act as a sheet anchor for inflationary expectations, and thereby help to stabilise the medium term path for interest rates (arguably far more important than short term fluctuations, in terms of economic behaviour).

20. Clearly it would be a big jump from the present system to a fully fledged system of close non-mandatory monetary base control. But we could move some way in this direction by allowing short term interest rates to vary more freely within the 2 per cent unpublished band (largely otiose as we now operate), using targets for the base as a guide both to the position of the band, and to fluctations within the band during the course of the month. We identified this at the first step towards monetary base control two years ago, when the new monetary control arrangements were introduced; and the changes made then were in part inspired by a desire to remove the existing institutional obstacles to operating in this way, should that seem desirable.

21. Nevertheless we should need to look again at the institutional consequences that might follow from permitting more variation in interest rates. Two years ago there were worries about the viability of the Discount Houses in such circumstances. A sharp contraction in the discount market could jeopardise the Bank's present mode of operating in bill markets (through the intermediation of the discount market). Existing

"club money" arrangements, introduced in 1981, were partly inspired by a desire to ensure the survival of the Discount market, but they are rather resented by the clearers and are now being reviewed. In principle, the Bank has the alternative of dealing directly in the interbank market (or even, as the Swiss do, of using foreign exchange market intervention as a way of regulating the supply of cash to the banking system). But it has always seen substantial difficulties with these alternative options. The other financial institutions directly affected would be those, like the building societies, whose interest rates are administered, rather than tied to money market rates. The implications for them would need to be examined in the context of their longer term evolution, where there are clearly changes in prospect anyhow.

22. It is often argued that significant changes in the way the Bank operates would also provoke changes in banking sector behaviour that might alter the economic significance of the base itself. At present there are a range of other highly liquid short term financial assets (such as commercial bills, call money and Treasury bills), that are very close substitutes for cash, as far as the banks are concerned. If the terms on which cash is supplied in exchange for other assets become less predictable, as a result of allowing much more variation in short term interest rates, the nature of the banks' demand for cash might well change.* This would imply a shift in past relationships between the monetary base and future GNP and prices that would inject an additional element of uncertainty into target setting.

23. Advocates of monetary base control would no doubt argue that these problems are not sufficiently serious to constitute a case against a modest move in the direction of controlling the base directly, especially when they are compared with the substantial problems that have been encountered in basing monetary policy on the broader aggregates through discretionary variations in short term interest rates. In their view, acceptable control over the base has in fact been secured in recent years without intolerably variable interest rates or substantial institutional change. And, granted that policy was not set with any particular path for the base in mind, it is clear, with the benefit of hindsight, that the interest rates needed to achieve a low growth in the base were those needed to reduce inflation to its present low level.

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*As explained in para 17, this would be a necessary condition for controlling the base by setting quantitative targets for the supply of cash to the banking system.

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24. However, the interpretation of recent experience is not unambiguous. The apparent relationship between interest rates, base money and inflation over this period could be largely coincidental, the result of a structural fall in the public's demand for cash that has gathered pace since the late '70s for reasons not closely related to the particular path of interest rates (though the persistence of generally high levels of interest rates could have provided an incentive for financial innovation). Supporting evidence for this view was given in an article in the December 1982 BEQB ("Recent changes in the use of cash"). Our worries on this score stem from the fact that the slow growth in the public's demand for notes and coin since 1979 is very difficult to explain in terms of past relationships with nominal incomes and interest rates. There is therefore a strong risk that relationships apparently observed over the past few years will not prove robust in the future. If that is so, they could not provide a good basis for determining interest rates, however we chose to express the monthly guidelines for the Bank's money market operations.

25. Nothing that has happened in the last two years has strengthened the case for MBC as a lever over M1 or £M3. The risk that non-mandatory MBC* would be ineffective in these terms is still a real one; the relationship between the base and broader measures of money (especially £M3 and PSL2) has demonstrably been far from stable in recent years. Under present institutional arrangements, there is no reason to expect anything else; and the consequences of a more radical change in the Bank's operating procedures must, as noted above, remain largely unpredictable. The rapid growth in the Euro £ market underlines the risk that mandatory forms of MBC* would provoke significant offshore disintermediation, in the absence of exchange controls. More fundamentally, our current worries about the interpretation of the broad aggregates (including, increasingly, M1) must help to weaken the case for changes in monetary control that are only likely to keep these aggregates more closely on track at the cost of further distorting their economic significance. (The issues are discussed more fully in the Annex.) On this view, therefore, the case for monetary base control turns critically on the strength of the arguments for targetting the base as the main focus for monetary policy decisions.

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*MBC systems are classified as <u>mandatory</u> or <u>non-mandatory</u> according to whether or not the banks are bound by legal minimum reserve requirements. In a <u>non-mandatory</u> system, the authorities exercise control by exploiting the banks need for cash, for operating and prudential purposes. <u>Mandatory</u> systems seek to reinforce the role of cash by legally requiring banks to hold a specified proportion of their total assets in this form. The risk is that banks will seek to evade this constraint by re-routing business (eg offshore) - as happened under the SSD scheme.

ANNEX

MONETARY BASE CONTROL

1. The essential feature of all versions of monetary base control is that the authorities direct their open market operations at controlling the growth in their own monetary liabilities (cash, or the monetary base).* The text discusses versions of MBC in which the base itself is the main intermediate target, on the view that this aggregate is itself reliably related to future movements in money GDP and inflation. This Annex looks at the case for controlling the base as a means of affecting the behaviour of banks, with a view to influencing broader aggregates that include the monetary liabilities of the banking system.

2. In a non mandatory system (ie one without compulsory cash ratios) the authorities actions are in principle designed to exploit the banks' need for cash, for operating and prudential purposes. In practice, two mechanisms can be distinguished:-

- the first works through the effect of the interest rate changes that result from the operations needed to control the base. If base money is growing too rapidly, the authorities will sell securities, driving up short term interest rates, which in turn may depress the demand for credit and bank deposits (at least non-interest bearing deposits);
- the second operates by influencing the supply behaviour of banks. The argument is that the knowledge that the supply of cash will be controlled, and the cost of borrowing will rise if the demand for cash increases, will encourage the banks to adjust their lending strategies to conform more nearly with official targets for money.

This second mechanism, or something like it, is what commentators like Gordon Pepper probably have in mind when they argue that, in contrast with present techniques (which operate through the first mechanism only - the "demand side"), monetary base control is a "supply side" approach to monetary control. It is a means of putting pressure on the banks to modify their behaviour in ways that would be helpful to monetary control, rather than responding passively to the demands of their customers.

3. These arguments assume that cash is an essential input into the provision of liquidity services, so that there exists a stable and predictable relationship between the supply of cash to the banks and their total assets/liabilities. At present, however,

* footnote [from para 15 main text]

cash plays a minor part in the British banking system, with a limited role in facilitating transactions between the clearers, and virtually no role as a source of primary liquidity. Total bankers balances at the Bank of England are only about £½ billion, most of which is held to conform with the ½% cash ratio, the purpose of which is to generate income for the Bank. Balances held for operational purposes amount to only about £100-200m - less than 1% of the wide monetary base, and negligible compared with total sterling bank deposits. (~~Most - over 90% - of the monetary base is cash in the hands of the general public, supplied on demand as a payments medium~~). For liquidity purposes, UK banks hold a wide range of short term money market instruments, including commercial bills, which, unlike cash, bear interest.

4. Advocates of MBC argue that this situation is, to a significant extent, dependent on the present system of monetary control. Banks have no appreciable or stable demand for cash because the Bank of England is prepared to supply it freely, on predictable terms, in exchange for eligible bills or through discount window lending (though the latter - which gave rise to the familiar jibe that the Bank all too often acted as a lender of first not last resort - has been used fairly infrequently under the new arrangements introduced in 1981). If cash were supplied on less predictable terms (in other words,if short term interest rates were much more volatile) the liquidity of these other instruments would be impaired, and cash might become a more important source of primary liquidity. Moreover, if the Bank did not, as a matter of course, gear its money market operations to offsetting money market shortages and surpluses, the banking system would in practice have to hold larger operational balanaces.

5. Both of these developments are possible - though the second would not necessarily imply any close relationship between the banking system's precautionary holdings of cash and its total sterling liabilities. But we cannot be sure. More important, the authorities would have no prior information about such a relationship, even if it emerged. It is, for example, improbable that the ratio between bankers balances and deposits would be a constant - it would almost certainly be significantly affected by the level of interest rates. But if the authorities were to operate the system effectively, they would need to have some idea of the size of these inter-relationships.

6. Even given a radical change in the role of cash, we have always been sceptical whether non mandatory MBC could be counted on to exercise much effective discipline over either bank lending, or an aggregate as wide as £M3. It might encourage the clearing banks to cut back their lending to companies (where, with the erosion of their

retail deposit base, they are already beginning to find the margins available after bidding for wholesale deposits uncomfortably fine); but whether it could have much influence over the non-clearers (the major operators in this field) is more dubious. Banks have some motivies for holding cash against retail deposits, and, with enough time, the authorities might hope to observe a stable relationship. But it seems unlikely that a stable demand for cash to hold against wholesale deposits would ever emerge. The behaviour of banks engaged in Euro-markets offers some support for this view -the deposits they choose to hold with their head offices, which are cash in their terms, seem to be very small. At best, therefore, non mandatory base control seems to offer an uncertain, and rather partial, way of influencing the banking system's contribution to monetary growth.

7. The problem of effectiveness can, in principle, be solved by imposing minimum reserve requirements, though even then the relationship between changes in the base and the money supply would not be precise, both because banks would probably hold excess reserves, and because there would always be some scope for banks to relieve cash pressures by bidding notes and coin away from the non bank public. Neither of these safety valves is necessarily undesirable: they could provide a welcome element of flexibility. The principal problem with a mandatory system is the risk of substantial disintermediation - which might keep the chosen measure of money on target, only at the cost of distorting its economic significance. Any system that exerts an effective discipline on the banking system will involve a degree of penalty that will give the banks an incentive to re-route business to avoid paying that penalty.

8. In an effective system of mandatory MBC, avoidance would need to be costly. One approach is to invest bureaucratic resources; a more promising solution is to use mandatory MBC to control an aggregate that, at least initially, is comprised of assets that have no close substitutes. That almost certainly means excluding wholesale deposits, given the scope for offshore disintermediation provided by the Euro sterling market, and the absence of exchange controls. The new transactions aggregate, M2, was devised with this in mind, but we have only been collecting statistics for a couple of years: there are still some bugs in the data collection, though the monthly figures do not obviously look absurd (as table 2 shows, the growth has been rather similar to the non interest bearing aggregates, NIB M1 and the wide monetary base). A preliminary step to further work on mandatory MBC would be to pay more attention to monitoring M2, possibly with a view to giving it greater public prominence.

9. The case for mandatory MBC may therefore depend on whether M2, the most suitable available aggregate, turns out to be sufficiently well related to future

inflation and money GDP to be worth targetting in its own right. Even if it is - and it will be another couple of years before we can judge - the choice of M2 would raise one important institutional issue - the degree of monetary control exercised over building societies. At present M2 includes transactions balances held at building societies as well as banks, on the grounds that the two are close substitutes. A cash ratio system that deliberatley excluded building societies deposits would act as a discriminatory tax on the provision of comparable facilities by the banking system - a situation that, as well as enraging the banks, would raise similar problems of disintermediation to those discussed above. But a decision to apply cash ratios to banks and building societies equally would break new ground, raising fundamental questions about the nature and future of the building society movement, and implying answers considerably at variance with those currently being contemplated, either by the authorities or the societies themselves.

Wide Monetary Base

A. Composition of Base at May 1983

		£m	%
Notes and coin in circulation outside Bank of England			
held by:	public	11,263	92
	banks ("till money")	853	7
Bankers' deposits: operational deposits		96	1
	Wide Monetary Base	12,212	100
Memo: cash ratio deposits		468	

Source: BEQB Table 2

B. Change in the Wide Monetary Base: 1982-83

Counterparts	£m	Components	£m
CGBR	12,598	Change in notes and coin in circulation held by: public	1,433
less sales of CG debt	8,350	: banks	-227
less external and fc. finance*	2,478		
plus lending to other sectors (incl. Issue Department transactions in commercial bills)	564	Change in operational balances at Bank of England	neg
Change in monetary base	1,206		1,206

*External and foreign currency finance:-

(1) Official financing	
Official reserves (increase -)	2,062
Other CG transactions	-162
(2) Other overseas holdings of CG debt	
Marketable debt (stocks, TB's)	780
Other debt	-202
Total external and fc finance (1+2)	2,478

Source: BEQB Table 7

c/10

FROM: RACHEL LOMAX
DATE: 19 SEPTEMBER 1984

Copy to Mr John
Any comments tomorrow please
R.N.J 24.9

MR CASSELL

cc: Mr Sedgwick
Mr Lankester
Mr O'Donnell
Mr Wood

MONETARY CONTROL REVIEW

The main question we want to try and answer with the Bank's help is a rather broad one; given the Government's objectives, as set out in the MTFS, are we conducting official operations in short term money markets to the best effect? The July episode threw doubt on this, but the circumstances were rather extreme. The review is an opportunity to take a cooler look.

Issues

2. One of our main aims should be to try and pin down what the 1981 arrangements actually are. The Annex to my July paper was an attempt to summarise published sources, but subsequent experience suggests there are gaps. In particular, the Bank seem to produce a new signalling device almost every week. I doubt whether we will ever get them to provide a complete catalogue, partly because to do so would destroy some of their mystique, and partly because eyebrow twitching can probably be done in an infinite number of ways.

3. It may be more important to understand what the present system actually amounts to. Presumably we still see ourselves trying to achieve the targets by varying the demand for money, through operations designed to influence interest rates. The questions are:- what degree of influence over interest rates can we and should we aim for, and how should it be exerted? I attach an interesting recent article by Henry Wallich which explains the case for giving the market a substantial role in determining interest rates. It is useful as a reminder of the price/quantity choice

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and provides a number of examples of ways in which, at different stages, the balance can be struck.

4. One of the more revealing aspects of the July episode to me was the extent to which the scale of the Bank's daily operations is determined by the size of the daily shortage. It may be worth exploring the reason for this convention. It has the effect of ensuring, over a period of time, that bankers' balances stay at the target levels agreed with the Bank. By providing a quantity "anchor" for the Bank's operations, it also limits the technical influence that the Bank can exert over short term interest rates. The curious feature of this part of the arrangement is that the Bank have always claimed that bankers' balances have no wider monetary significance (as they would have in a monetary base system). So it is not clear why they allow the scale of their operations to be determined by this meaningless quantity, rather than by the objective of achieving a particular level of short term interest rates.

5. Other issues we might explore include:-

(i) why we set operating targets for dealing rates rather than, for example, short period money market rates;

(ii) the role of the unpublished band;

(iii) what considerations determine the methods that the Bank uses to supply cash to the market. Why, for example, do they prefer to do repos in public sector paper, rather than deposit funds in wholesale money markets, at times when the capacity of bill markets is stretched (eg. during the Revenue quarter). How important to the maturity at which the Bank intervenes.

6. We should also try and look ahead. Are base rates "withering away" as more of the banks' business is done on market related terms. Do the prospective changes to the Stock Exchange have any implications for the money markets, and for the Bank's ability to influence the level and structure of market interest rates?

7. The alternative arrangements that may be worth considering should emerge from discussion of the present arrangements. We are, however, committed to providing a reappraisal of monetary base control. That could cover a multitude of different things. I cannot see any mileage in going over yet again the question of how much weight we ought to give to MO in taking interest rate decisions. So I suggest that we interpret this remit in strictly operational terms and address the question of whether we should be formulating our operating objectives more explicitly in terms of quantities, and less exclusively in terms of interest rates. (I say "explicitly" advisedly since, as noted above, the Bank do have an implicit operating objective for bankers' balances).

Next Steps

8. The first step is for you to set up a meeting with Eddie George (plus Tony Coleby and, probably, Charles Goodhart and Michael Foot) to agree a programme of work, and to commission some papers. As a scene setter, I suggest we spend the first half of the meeting discussing my July paper on "Resisting a Rise in Interest Rates". The next meeting ought to take a paper from Tony Coleby with his analysis of how the present arrangements work. Thereafter, it might be worth Tim taking a smaller group with Tony Coleby to look at some of the more detailed problems, with a view to reporting back to you and Eddie for a discussion of alternative arrangements/possible improvements.

9. As requested, I have tried to avoid raising too many hackles in the attached draft letter to Eddie George. The price is, however, some vagueness about how we plan to proceed. So we shall need to spend some time discussing procedure, timetables etc. at your meeting.

RACHEL LOMAX

DRAFT LETTER TO E GEORGE

MONETARY CONTROL REVIEW

As you know the Chancellor has asked me to put in hand a joint Treasury Bank review of our present monetary control arrangements. I hope to arrange a meeting shortly to consider how we should tackle this remit. This letter suggests some topics that we might aim to discuss, both then and during the course of the review.

2. The Chancellor's request was, of course, prompted by the sharp and most unwelcome jump in interest rates last July which raised questions about what our present system of control actually is, and how much scope it gives us to influence monetary conditions. Some of these concerns were outlined in HF3's review of the July experience ("Resisting a rise in interest rates": July 1984). We have not yet discussed the paper with you in any detail, and I think it would be useful background to further work in this area if we started off by doing so. We might focus, in particular, on the Annex and the final section of the paper entitled "Implications for Monetary Control".

3. We shall also need to consider how well the present system operates in circumstances less extreme than those that confronted us last July. The new arrangements have been in place for three years now and - as became clear in our discussions of overfunding and the bill mountain - in some respects they have not operated quite as envisaged. An HF paper, prepared with the Bank's help in April 1983, took a first look at how the new system was working, given the objectives on which it was based, namely:-

(i) to allow greater scope for market forces in determining the structure of short term rates;

(ii) to reduce the bias for delay (thought to characterise administered interest rate changes);

(iii) to achieve a lower political profile for interest rate changes.

4. The time may now have come to stand a little further back and consider how much importance we continue to attach to these objectives. The implications - for example, for base rates - may now be rather clearer than they were three years ago. More generally, are we still sure that we could exercise effective monetary control simply by influencing very short term interest rates (0-14 days), as originally proposed?

5. A final strand in the work will have to be a look at alternative arrangements. In addition to any modest improvements to the present arrangements that we may want to propose, the Chancellor has asked for a reappraisal of the case for monetary base control. Of course, the term "monetary base control" is open to various interpretations. Given the context in which the request was made, I think it would be right to interpret it rather narrowly; that is, we might take as given the framework of policy set out in the MTFS, and look at alternative ways of formulating the guidelines for the Bank's day-to-day market operations. At present these are expressed solely in terms of an unpublished band for dealing rates. Another approach, closer in spirit to MBC, would be to put more emphasis on quantities such as the scale of the Bank's operations relative to the expected size of the system shortage. In this context, it might be worth looking at how the Fed's approach to market operations has evolved in recent years.

6. It may be that we can remit some of this work to a smaller group. In any event, I think we should aim to complete our review fairly speedily, in time for Ministers to consider it in the window between the Autumn Statement and Christmas.