6/11/01

MR GRICE
MR SHIELDS
MR SPENCER
MR BENNETT

cc Mr Britton
Mr Monck
Mr Turnbull
Mr Riley
Mr H Davies
Mr Wren-Lewis
Mr S Davies
Mr Cumming
Mr Fisher
Mr Allen) Bank of
Mr Mills) England

ALTERNATIVE MONETARY AGGREGATES

We are to have a progress meeting on this work at 11.30am on Friday. As well as going through the projects listed in my note of 12 January I should also like to discuss the attached outline. Comments from copy recipients (and attendance at Friday's meeting) would be very welcome.

RL.

RACHEL LOMAX
15 January 1981

Encl.

OUTLINE: ALTERNATIVE MONETARY AGGREGATES

1. Introduction

What makes a good target?

Targets are rules for setting policy instruments over which Government has direct control: under present arrangements this means MLR, fiscal policy, intervention. Could mean total sales of (?CG) debt (under MBC) or total sales of gilts (with different funding techniques). Take case for targeting monetary aggregate, rather than interest rates, as given. Good targets provide timely, appropriate signals for changes in key policy instruments so Government's final objectives on prices etc are furthered. Not just a matter of choosing a variable which is well related to final objectives on average over a run of years (though this is obviously important). Need to minimise risk that target will convey misleading information. This happens when divergences from target reflects shifts or erratic fluctuations in demand for that aggregate, rather than disturbances to output, prices etc. So noisy variables are undesirable: also those which are liable to be affected by institutional changes affecting status of controlled sector (eg. banks vs. building societies or domestic vs. offshore banking).

Changes in instruments which Government controls must be capable of correcting divergences from target predictably, effectively and speedily - otherwise risk of aggregate giving misleading signals.

2. Present situation and recent experience

a) Serious worry about whether £M3 is giving misleading signals. Indicating need for tightening in policy though output and inflation both falling rather faster than expected. Marked difference between behaviour of narrow and wide aggregates.

- can we say whether either (or both) are behaving oddly? (tracking exercises: velocity charts). Even if not, situation where narrow and wide aggregates apparently tell different story not unusual, (even though over long runs of years aggregates have moved more or less in line - true?) Some evidence of negative correlation between annual rates of growth. Some very striking episodes - notably:

	M1	M3	% growth
72	15	29	
73	5	29	
75	22	8	
77	19	8	
79	9	13	
[80	?3	?16]	

72, 73 and possibly 75 may reflect Competition and Credit Control and its aftermath: 77 may reflect sharp fall in MLR to fend off inflows, and 79/80 sharp rise in MLR in 1979.

b) Failure to control £M3 in itself worrying. Another note discusses whether the overshoot is consistent with past relationships. Even if it is, fact we failed to anticipate it raises questions about suitability of £M3 as a target.

3. £M3 as a target aggregate

The most recent experience aside, what is the longer term evidence bearing on value of £M3 as target?

a) relationship with prices. Wren-Lewis work suggests there is a fairly robust relationship between £M3 and prices, but that it is quite complex (ie. a fair number of other variables matter too, especially in the short run). Treasury model would support complexity point. So, indirectly, does Bank work

-insofar as it failed to find strong cross correlations between broad money and prices at various lags. Note speed of response probably turns on exchange rate response. But link between £M3 and RX pretty flimsy.

b) demand for £M3. No-one has been able to explain demand for £M3 in terms of income or transactions variables since the '60's; not surprising in view of growth in interest bearing wholesale component (illustrate). Grice/Bennett work has identified stable demand in terms of gross wealth. We also think wealth (on some definition) is an important influence on expenditure, though lags are long. In principle, £M3 only gives misleading signals where desired relationship between income and wealth changes. In practice, this makes the interpretation of changes in £M3 more complex. The observed relationship between wealth and income has changed a lot over the '70's, though how far this reflects slow adjustment to the effects of inflation, or changes in desired ratios we do not know.

c) cyclical properties. Relationship with cycle not very obvious. But fairly clearly £M3 and changes in £M3 do not lead cycle. Usefulness as basis for contra cyclical interest rate policy would turn critically on ability to forecast turning points [charts].

d) Controllability. Not very sensitive to level of short term interest rates (as opposed to relative interest rates, which we have little leverage over). Much of the effect of interest rate levels probably comes through revaluations - impact of which is dubious. Long lags in interest rate response. (See this particularly in effect on bank lending.) [Examples from model and RF equations.]

- effect of fiscal policy pretty uncertain, and often fairly small in short run (short run response also depends on type of fiscal policy change). Fiscal policy not a good way of influencing wealth - see Grice Bennett work.

Rather like an oil tanker: would not matter so much if our understanding of lags etc. was highly reliable. But not the case.

e) vulnerability to structural change

- effect of abolishing exchange controls liable to make demand for £M3 much more sensitive to exchange rate expectations. Likely to become much noisier series as a result. Note Swiss abandoned their broad money aggregate because thought it was distorted by speculative considerations.

- aboliton of direct monetary controls may change scope and nature of banks' business (leading to changes in trend velocity).

- Growth in euro-sterling market would make £M3 less comprehensive measure of broad £ money stock (which would also increase velocity).

4. Any better candidates?

Note: most of our research work has been focussed on £M3.

I. Narrow aggregates

M1

- what do we know? (a) M1 and prices - Bank work negative; Wren-Lewis did not cover this: chart suggests some sort of relationship, though not very simple one. Spike in M1 in 77/78, preceded 79/80 spike in inflation: 74/75 spike preceding 76/77 spike in inflation, M1 trough in 76, preceding inflation trough in early 1978. Episodes on which £M3 relationship does not do very well and other direct influences on price level (exchange rate, indirect taxes) are needed to explain inflation. But far less impressive in leading the '75 upsurge in inflation (though £M3 relationship may be spurious here). And M1 much more volatile than prices in '60's.

Relationship with exchange rate probably worse than £M3.

b) demand for M1

Quality of Bank equation deteriorated over past 2 years - large ex post forecasting errors in both directions (under-prediction in 77/78, over-prediction more recently). But some evidence of fairly stable relationship with income, though not all that well determined, and some worrying features (eg. price coefficient). Recent Treasury work (Bennett) found stable relationship with wealth, but not income or transactions variable. All research suggests M1 sensitive to level of short rates. Velocity trends?

c) Cyclical properties

Some evidence (suggested by CSO charts, weak confirmation by Bank/Grice)that real M1 leads the cycle.

d) Advantages of M1 target

More easily controlled by varying interest rates. Would resulting path of interest rates produce more stable path for output and prices - for other monetary aggregates - the exchange rates?

Simulations

[charts showing interest rates, exchange rates, output and prices - actual
- assuming M1 target met
if possible- assuming £M3 target met]

M1 target would have avoided the fall in interest rates in 77; simulations suggest this was big mistake. If interest rates had stayed up exchange rate would have gone up sooner, output growth and inflation rate would have been smoother.

	GDP	Inflation	Competitiveness	Short rates	M1	£M3
YULE 35						
78	108.4	8.3	94.5	9.2	23.1	14.5
79	109.9	13.4	112.4	13.7	13.1	12.1
80	107.1	18.0	139.4	16.6	6.8	13.1
81	104.7	11.8	152.5	14.0	4.9	17.1
82	104.9	9.6	149.3	12.4	9.2	8.0
83	105.5	10.5	145.9	12.0	10.0	7.0
M1 Target						
78	107.7	7.7	98.1	12.5	11.0	10.1
79	109.2	12.2	113.6	16.7	10.0	13.8
80	107.9	16.8	134.9	17.7	9.0	14.9
81	105.8	11.2	149.0	15.1	9.0	17.3
82	105.9	8.3	152.1	13.2	8.0	2.2
83	106.0	9.0	157.9	12.9	6.7	-

Problems with M1 target

Note that targets are attainable just by manipulating interest rates. Same is not true for £M3. Nor do interest rates needed to control M1 significantly help with task of controlling £M3 (78-81). In final couple of years, interest rates have to stay up to control M1 but this produces drastic contraction in £M3. ?Probably because sharp turnround in PSBR which has much bigger effect on £M3 than M1. Points to weakness of M1 target as an end in itself. Not sufficiently responsive to fiscal policy. (Support by standard simulations?). If we switched to M1 target could mean higher interest rates in longer term - though probably lower ones next year, since we would start from a lower level of income than in the simulation (discuss simulation where meet M1 target just over forecast period).

Mo (see Grice note)

a) possible definitions;
b) what do we know - about relationship with prices, other aggregates; demand functions ;

c) advantages of Mo target
any simulations?
d) problems and risks.

II. Broad aggregates (see Shields note)
Reasons for wanting broad aggregate:-

- evidence that total portfolio size important influence on expenditure.

- relationship between fiscal policy and wealth: movements in broad aggregates may reflect changes in portfolio size whereas narrower aggregates reflect changes in composition (though matter of degree).

- eclectic - relationship with final objectives, reasonably well established: need to reassure markets.

Possibilities include: PSFI, PSL's as well as £M3.

a) What do we know: Charts; PSL demand functions. Note differences from £M3 eg. PSFI lags £M3, so it lags the cycle and is coincident with prices. How do the PSL demand functions compare with those for £M3.

b) Case for PSFI: by definition, an index of fiscal policy. Like the PSBR, not an index of discretionary policy: not precisely controllable even by fiscal policy. Relationship with interest rates (positive?) provides no guide for interest rate policy. No good by itself.

c) PSL's: institutional case for moving wider than £M3. PSL2 includes building society deposits (which Bank work suggests is convincing leading indicator of inflation); despite strength of economic case for including them, political problems may preclude move before/is demonstrably essential (NB. FST's remarks to BSA).

Illustrate relationship between fiscal policy changes and different aggregates from standard simulations.

III Other measures

In principle might construct new measures.

a) Aggregates in which different components are weighted differently - Bank work on information content of different aggregates suggests this might be appropriate. Simple sum aggregation seems to destroy most of the information content of individual components. Could think about constructuing and publishing series of this sort. Academic for this Budget. Very arcane for the market, though funny aggregates not out of the question (see Central Bank Money, DCE etc).

b) Aggregates which reflect more directly other major influences on final objectives: follows from Wren-Lewis finding that relationship between monetary aggregates and prices is very contingent. Obvious candidate is the exchange rate (in present circumstances): possible measures might be £MW, or £M3 x $\frac{RX}{RXo}$ where RX is an index of the effective exchange rate, and RXo is the level of the index at the beginning of the target period. Formal ways of expressing notion of conditionality. See companion paper on conditionality.

5. Multiple Targets

£M3 something of a compromise between narrower and broader aggregates. Unsatisfactory to replace it by either single narrower or single broad aggregate. Could move to multiple targets; case for supplementing it may be stronger than case for replacing it. Real worry is signals £M3 is giving about interest rates. No real reason to think it is giving misleading signals about fiscal policy:- all other possible indications would point in the same direction (?true). But longer term reasons for worrying about £M3 as broad aggregate, so might take the opportunity to move away from it.

Options:-

a) £M3 plus either M1 or Mo (can we discriminate between M1 and Mo;, M1 exists and is familiar; but contains interest bearing deposits. Both Mo and NIB M1 would be new aggregates: more outside support for Mo; could be presented as closer to home: simple counterparts).

b) PSFI and Mo Both very closely related to policy instruments but neither reflect portfolio behaviour of private sector very well. Most radical approach.

c) PSL (1 or 2) and Mo (or M1): not very attractive for this time. PSL2 most convincing of PSL's on economic grouns. But too politically difficult.

Problems with multiple targets

- cross eyed controller. Measures taken to control one aggregate will interfere with control of the other. Not necessarily major obstacle if there are enough instruments, especially, if responses to each one very different. Illustrate with problem of bank lending. Will interest rates needed to control M1 also control bank lending: if not, potentially unstable situation; cannot control £M3 by fiscal policy/funding alone because banks balance sheets will become unbalanced. if banks respond to balance sheet pressure by bidding for deposits, not cutting back lending then £M3 will be inflated.

Evidence?

- Grice work on M1 as leading indicator of £M3: suggested that controlling M1 would not contribute significantly to control of £M3 (or sabotage it).

- model simlulations confirm this in short to medium term (discuss post 79 simulations especially - lower interest rates last year would have allowed even faster growth in bank lending. Would problem of controlling £M3 have then been beyond fiscal/funding policy?).

- international experience Bank note. Divergent behaviour of narrow and broad indicators only seems to be significant problem in Canada and UK (which have single targets - narrow and broad respectively). US, which has had multiple targets since 75, has not had visible problem to judge from old M1 and M3 series - they seem to have used interest rate (reserve targeting) to meet both targets - suggests two US aggregates may not in practice be all that different - do new series show different picture?

Conclusion.