File FEA/0000000509, Part D – Monetary Base Control

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PART 6

20/8/1981 – 22/10/1984

Pages 94-113

ANNEX A

US: MONETARY OPERATIONS AND TAX AND LOAN ACCOUNTS

Money market operations are conducted by the New York Fed. They intervene in government securities (around 75 per cent of total transactions), securities issued by or guaranteed by US government agencies (most of the rest) and to a very limited extent in prime acceptances (about 3 per cent). The acceptances carry the name of only one acceptor (as opposed to two names in the UK where the discount house name is added). The Fed does not deal in interbank deposits. Most purchases are from dealers (Goldman Sachs, Salomon etc.) rather than direct from banks but the dealers may trade securities on their own account or on customers' accounts (where banks may be customers).

2. The main outlines of the Tax and Loan Accounts are as follows:

(i) Around 5,000 banks participate in the tax collection scheme. They are divided into three tiers. The bottom tier (number unknown at present) act merely as agents and transmit taxpayers' cheques to the US Treasury immediately. A middle tier hold funds for a while in Treasury accounts and then remits it according to a set timetable. The top tier, about 500 banks, hold the funds until instructed to send them by the Treasury.

(ii) The interest on the accounts is the average daily rate on Fed funds in the previous week less ¼ per cent. The rate is thus determined independently of the market clearing process.

(iii) When it wishes to draw funds from the third tier, the Treasury will telex the banks concerned calling for remittance of a specified percentage, say 10 per cent of outstanding balances.

(iv) The amounts which any bank accumulates depend on which tier it is in and how much its customers' pay over

The accounts are held against collateral, presumably the banks' holdings of public sector paper. Apart from the tiers the Treasury does not discriminate between banks to adjust its exposure.

(v) The Treasury informs the Fed each day of its intentions in drawing on the accounts. The Fed then treats this as a prior money market influence which may need to be reinforced or offset. The system apparently does not always work perfectly and misunderstandings do occur. Even if the Treasury's drawings are accurately forecast, it is difficult to forecast inflows into the accounts.

3. If the system were adopted in the UK, it would be necessary to decide who was eligible to operate it. Criticism could arise if the clearers appeared to be granted a supply of relatively cheap deposits.

HF3 Division
HM Treasury

(With help from
Bank's US desk)

cc Mr Middleton
Mr Odling-Smee
Mr Sedgwick
Mr Turnbull
Mr Willetts

H M Treasury

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N J Monck
Under Secretary

6 January 1983

D Somerset Esq
Bank of England
Threadneedle Street
LONDON EC2R 8AH

Dear David

We are now about to discuss with the Bank the working of the monetary control arrangements formally introduced in August 1981. It seems a good time to return to the question of clearing bank overdrafts with the Bank of the kind covered in my letter to Tony Coleby of 26 April and your letter to me of 10 June.

2. Our concern is with how the new arrangements have worked and are likely to work in future. I think the importance of ensuring that the clearers do not go into overdraft is common ground. If that were not achieved such restraints as there are on bank lending would clearly be weakened. But since no interest is paid on the balances held with you, there is a commercial incentive to the clearers to keep balances at a lower level than are required to avoid going into overdraft taking account of the inevitable uncertainty, unless the penalties of overdraf are high enough to deter this behaviour.

4. In your letter of 10 June you explained that you understandably had no explicit rules "for events which should not occur" but that in pract in the absence of any special factors you have charged interest on the occasional overdraft at rates not less than the highest closing rate fo overnight funds in the inter-bank market.

5. For the purposes of the current review it would be useful if you could answer the following questions:

a. how many occasions of overdraft by individual banks have their been over some long convenient period - say the last 12 months or the whole period since August 1981 - and is there any visible trend. On how many of these occasions have you taken the view that the fault lay not with the bank but with some special factor or problem in the system generally?

b. do you regard this record as satisfactory? If so, on what criteria? (It is arguable that 'special factors' should not be allowed for at all; that if they are, there should certainly be no other occasions of overdraft; and that since they do occur, even if only exceptionally, the penalties are not big enough. Is the extra interest cost of an occasional overdraft sufficient to deter banks from earning extra interest on most days by aiming at balances lower than would be needed to cope with exceptional situations.)

2231

6. I am sending a copy of this letter to Tony Coleby.

Yours
Nick

N MONCK

C/10

FROM : T BAYOUMI

DATE : 24 May 1984

MR JOHNSTON —

cc Mr Sedgwick
Mr Riley
Mr Melliss

OPTIMAL CONTROL : MONEY SUPPLY SIMULATIONS

I have now set up an optimal control base for money supply simulations.

2. Two simulations have been carried out:-

(i) raising the desired rate of growth of M0 by 1% pa while leaving the desired rate of growth for £M3 fixed to base values

(ii) raising the desired level of M0 by 10% while keeping the level of £M3 fixed at base values.

3. In each case the only instrument used is the short term interest rate ie the term structure implicit in the model has been retained. In both simulations percentage deviations of M0 and £M3 from base values have been given equal weights. Each simulation is on a five year base.

4. I attach the results of both simulations. The results look sensible so I thought we might arrange a small meeting to discuss what to do next.

T Bayoumi.

T BAYOUMI

RESULTS OF OPTIMAL CONTROL RUNS

TARGETS. MO and £M3 – equal weights

INSTRUMENT. RTB.

RAISING DESIRED GROWTH OF MO by 1% pa

	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5
Change in RTB.	-·45	-·65	-·80	-·85	-·85
Change in rate of growth of MO	·25	·5	·75	·65	·60
(Desired)	(1)	(1)	(1)	(1)	(1)
Change in rate of growth of £M3	·45	·20	·10	·10	·05
(Desired).	(0)	(0)	(0)	(0)	(0)

RAISING DESIRED LEVEL OF MO By 10%.

	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5
Change In RTB.	-3·10	-2·55	-1·45	-·80	-·45
Change In Level Of MO.	1·80	4·50	6·65	7·05	6·60
(Change In Rate Of Growth)	(1·80)	(2·70)	(2·15)	(0·40)	(-·45)
Change In Level Of £M3	3·55	2·25	1·40	·45	·35
(Change In Rate Of Growth)	(3·55)	(-1·30)	(-·85)	(-·95)	(-·10)

RAISING DESIRED GROWTH OF MD BY 1%

	[illegible]	[illegible] EXPEND -ITURE	REAL PERS DISP INC	UNEM[illegible] (000'S)	[illegible] EARN -INGS	RPI	NOMINAL GDP AT MARKET PRICES	MAGGAT	EM3	SHORT INTEREST RATES PTS	EXCH -ANGE RATE %	[illegible] WAGE COSTS %	[illegible] BAL[illegible] £M	[illegible] £M	[illegible] £M
		2		4	5	6	7	8	9	10	11	12	1[illegible]	1[illegible]	1[illegible]
[illegible]	[illegible]	.15	.08	-14.2	.09	.14	.30	.71	.60	-.59	1.21	1.13	62	-119	-3
[illegible]	[illegible]	[illegible]	.13	-26.6	.45	.48	.69	1.14	.74	-.76	-1.69	-1.28	52	[illegible]	-5
[illegible]	.36	[illegible]	.22	-34.3	.97	.83	1.17	1.54	.84	-.83	-2.12	-1.21	176	[illegible]	49
[illegible]	.38	.35	.34	-39.4	1.57	1.26	1.68	1.88	.89	-.86	-2.50	-1.04	218	-662	72
[illegible]	.11	.02	.04	[illegible]	-.01	.02	.09	.42	.46	-.43	-.82	-.82	98	-46	67
[illegible]	.25	.17	.06	17.6	.15	.20	.38	.83	.65	-.65	-1.34	-1.20	47	-166	-12
[illegible]	.33	.24	.16	-24.0	.57	.53	.80	1.25	.77	-.80	-1.82	-1.29	82	[illegible]	[illegible]
[illegible]	.37	.32	.26	-36.2	1.12	.94	1.29	1.62	.85	-.84	-2.21	-1.17	193	-527	51
[illegible]	.39	.40	.36	[illegible]	1.72	1.37	1.82	1.94	.88	-.83	-2.56	-.96	[illegible]	-692	[illegible]
[illegible]	.06	.05	.09	-1.1	.00	.01	.03	.33	.49	.46	.71	-.71	37	-4	60
[illegible]	.15	.16	.08	-4.2	.00	-.01	.10	.42	.51	-.42	-.84	-.83	35	-7	-13
[illegible]	.12	.03	.00	-6.9	-.02	.01	.12	.44	.43	-.40	.85	-.86	18	-19	6
[illegible]	.12	.06	-.01	-9.2	-.01	.07	.17	.48	.43	-.43	.89	-.89	8	-16	5
[illegible]	.16	.11	.05	-11.9	.04	.12	.21	.70	.68	-.65	-1.24	-1.20	-29	-16	-23
[illegible]	.27	.23	.07	-16.0	.12	.16	.37	.80	.68	-.66	1.33	-1.23	-11	-45	11
[illegible]	.26	.18	.06	-19.6	.18	.22	.43	.86	.61	-.64	-1.35	-1.19	-13	-42	4
[illegible]	.26	.16	.07	-22.3	.27	.31	.50	.94	.63	-.65	-1.42	-1.17	7	-62	4
[illegible]	.29	.19	.12	-25.2	.38	.43	.61	1.11	.80	-.78	-1.66	-1.32	7	-75	17
[illegible]	.35	.28	.16	-27.9	.51	.49	.76	1.21	.78	-.83	-1.82	-1.34	21	-95	6
[illegible]	.34	.26	.16	-30.4	.63	.56	.86	1.28	.74	-.79	-1.35	-1.27	18	-92	10
[illegible]	.33	.25	.20	-32.5	.76	.65	.95	1.38	.78	-.78	-1.93	-1.23	37	-105	0
[illegible]	.35	.27	.22	-33.9	.90	.80	1.10	1.52	.91	-.86	-2.11	-1.28	41	-118	5
[illegible]	.39	.35	.25	-35.6	1.05	.88	1.26	1.60	.87	-.86	-2.19	-1.22	47	-126	29
[illegible]	.38	.33	.27	-37.0	1.19	.98	1.36	1.64	.81	-.82	-2.22	-1.12	51	-134	25
[illegible]	.37	.32	.29	-38.1	1.33	1.07	1.45	1.72	.82	-.82	-2.32	-1.07	53	-149	2
[illegible]	.38	.35	.34	-38.8	1.49	1.23	1.61	1.88	.97	-.92	-2.54	-1.15	47	-161	-7
[illegible]	.43	.44	.36	-39.9	1.65	1.31	1.73	1.94	.92	-.87	-2.58	-1.04	63	-180	37
[illegible]	.40	.41	.37	-40.6	1.78	1.41	1.88	1.96	.83	-.80	-2.58	-.91	54	-172	41
[illegible]	.37	.38	.39	-40.7	1.93	1.52	2.00	1.97	.79	-.74	-2.54	-.73	95	-179	52

[illegible] 12 ARE PERCENTAGE CHANGES FROM BASE RUN

RAISING DESIRED GROWTH OF M0 BY 1%

	1 [illegible]	2 NET WEALTH EXCLUDING REVALUATIONS	3 GROSS WEALTH	4 NET WEALTH INCLUDING REVALUATIONS	5 GROSS WEALTH	6 £M3	7 M0	8 M1	9 PSL2	10 GILTS SHARE OF GROSS WEALTH	11 EXP'D INFLATION	12 EXP'D CAPITAL GAINS	13 3 MTH £ BANK RATE	14 LONG RATE	15 RETURN ON GILTS REL TO MONEY
		PERCENTAGE CHANGE FROM BASE RUN													
[illegible]	[illegible]	.09	.44	.65	.69	.60	.61	1.02	.36	.05	.29	.08	-.59	-.15	[illegible]
[illegible]	.67	.01	.70	.73	1.01	.74	1.30	1.83	.37	.13	.39	.29	-.76	.17	.55
[illegible]	1.14	-.12	.96	.63	1.26	.84	2.00	2.60	.35	.18	.46	.44	-.83	-.17	.75
[illegible]	[illegible]	-.32	1.21	.41	1.48	.89	2.63	3.30	.31	.23	.47	.60	-.86	.16	.93
[illegible]	[illegible]	.10	.28	.56	.47	.46	.23	.51	.31	.01	.13	-.42	-.43	-.12	-.30
[illegible]	[illegible]	.07	.50	.63	.77	.65	.77	1.23	.37	.06	.32	.00	-.65	-.16	.21
[illegible]	[illegible]	[illegible]	.77	.73	1.09	.77	1.48	2.03	.37	.14	.41	.32	-.80	.18	.60
[illegible]	[illegible]	-.17	1.02	.85	1.32	.85	2.17	2.78	.34	.19	.47	.48	-.84	.17	.80
[illegible]	[illegible]	-.35	1.26	.29	1.50	.88	2.77	3.45	.29	.24	.46	.65	-.83	.16	.93
[illegible]	[illegible]	.10	.21	.62	.43	.49	.08	.28	.35	-.01	.00	-.93	-.46	.14	.82
[illegible]	.10	.12	.22	.61	.49	.51	.20	.47	.36	-.01	.11	-.64	-.42	.13	.54
[illegible]	.12	[illegible]	.31	.53	.50	.43	.28	.60	.27	.05	.18	-.08	-.40	-.12	.04
[illegible] 1	.17	.03	.31	.48	.48	.43	.37	.68	.27	.03	.22	-.02	-.43	.12	.10
[illegible] 2	.23	.12	.43	.60	.73	.68	.52	.91	.45	.04	.26	-.42	-.65	-.18	-.22
[illegible] 3	.37	.04	.48	.70	.75	.68	.68	1.16	.41	.04	.32	-.18	-.66	-.17	.02
[illegible] 4	.43	.05	.54	.61	.78	.61	.85	1.35	.32	.09	.35	.31	-.64	-.15	.52
[illegible] 1	.50	.02	.56	.60	.81	.63	1.02	1.50	.33	.09	.37	.30	-.65	.15	[illegible]
[illegible] 2	.61	.03	.67	.75	.99	.80	1.21	1.70	.43	.10	.41	-.01	-.78	.18	.25
[illegible] 3	[illegible]	.01	.77	.84	1.12	.78	1.40	1.95	.39	.16	.39	.29	-.83	-.19	.53
[illegible] 4	[illegible]	.04	.81	.69	1.11	.74	1.58	2.16	.33	.17	.41	.56	.79	-.17	.84
[illegible] 1	[illegible]	-.03	.84	.63	1.13	.78	1.74	2.31	.34	.16	.44	.43	-.73	-.16	.72
[illegible] 2	1.10	-.08	.95	.74	1.29	.91	1.93	2.50	.41	.17	.47	.21	-.86	-.18	.51
[illegible] 3	1.26	-.13	1.02	.65	1.33	.87	2.09	2.71	.36	.20	.47	.46	-.86	-.17	.77
[illegible] 4	1.36	-.20	1.04	.48	1.31	.81	2.25	2.88	.30	.20	.47	.67	-.82	-.16	.98
[illegible] 1	1.45	-.25	1.09	.43	1.35	.82	2.39	3.03	.30	.21	.47	.60	-.82	-.16	.92
[illegible] 2	1.61	-.26	1.22	.60	1.55	.97	2.57	3.23	.32	.24	.47	.37	-.92	-.18	.71
[illegible] 3	1.7[illegible]	-.34	1.27	.42	1.54	.92	2.72	3.41	.32	.25	.47	.60	-.87	.16	.94
[illegible] 4	[illegible]	-.43	1.28	.18	1.49	.83	2.84	3.54	.24	.25	.46	.82	-.80	-.14	1.14
[illegible] 1	2.00	-.61	1.28	.02	1.43	.79	2.94	3.61	.20	.23	.45	.82	-.74	-.12	1.12

LESS OFT BASE MONEY RUNS

REFERENCE TABLE ONE

RAISING DESIRED LEVEL OF MO BY 1%

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	GDP	CONSUM-ERS EXPEND-ITURE	REAL PERS DISP INC	UNEM-PLOY-MENT	AVER-AGE EARN-INGS	RPI	NOMINAL GDP AT MARKET PRICES	MAGGWT	£M3	SHORT INTEREST RATES	EXCH-ANGE RATE	COMPETIVE-NESS REL WAGE COSTS	CURR-ENT BAL-ANCE	PSBR	NON-NS ICCS NAFA
	%	%	%	000'S	%	%	%	%	%	% PTS	%	%	£M	£M	£M
	1.18	.74	.15	-91.8	.69	1.11	2.00	3.70	2.50	-2.61	-5.63	-5.03	101	-733	521
	1.07	.81	.73	-119.3	2.95	2.67	3.51	4.10	1.49	-2.02	-5.13	-2.51	680	-1528	-224
	.61	.71	.86	-92.7	4.94	4.11	4.73	4.02	.78	-1.09	-4.64	-.13	880	-1559	207
	.17	.65	.91	-43.3	6.27	5.08	5.32	3.58	.26	-.54	-4.13	1.71	926	-1527	-610
	.89	.72	.28	-41.8	-.03	.19	.73	3.22	3.52	-3.10	-5.97	-5.97	-773	-368	-450
	1.24	.79	.31	-105.1	1.21	1.46	2.37	3.88	2.25	-2.54	-5.49	-4.45	268	-947	357
	.97	.81	.84	-115.6	3.49	3.03	3.82	4.20	1.39	-1.94	-5.21	-2.08	718	-1651	-366
	.47	.67	.85	-80.6	5.36	4.44	4.95	3.80	.45	-.78	-4.27	.67	925	-1512	177
	.10	.64	.87	-32.5	6.42	5.21	5.40	3.56	.33	-.45	-4.19	1.80	339	-1475	-614
	.56	.48	.82	-10.3	.03	.07	-.28	3.05	4.56	-4.15	-6.32	-6.28	-344	-38	-553
	1.20	1.33	.38	-34.2	.02	-.10	1.03	2.77	2.99	-2.22	-5.08	-5.04	-226	-62	88
	.79	.40	-.01	-52.2	-.19	.19	.63	3.71	3.85	-3.58	-6.79	-6.93	-162	-162	-160
	1.00	.65	-.07	-70.5	.02	.59	1.50	3.33	2.73	-2.43	-5.67	-5.62	-41	-106	176
	1.01	.41	-.08	-63.1	.30	.92	1.50	3.67	2.86	-2.91	-5.90	-5.65	-29	-127	60
	1.45	1.10	.35	-100.4	.97	1.30	2.42	3.77	2.33	-2.58	-5.52	-4.67	125	-255	241
	1.27	.79	.38	-113.0	1.44	1.61	2.55	3.99	2.08	-2.52	-5.43	-4.17	46	-245	44
	1.23	.84	.56	-123.7	2.08	2.01	2.98	4.05	1.75	-2.17	-5.11	-3.27	126	-319	12
	.94	.55	.54	-120.5	2.60	2.60	3.27	3.82	1.33	-1.60	-4.49	-2.15	214	-401	-44
	1.12	.97	.92	-118.8	3.28	2.92	3.67	4.30	1.61	-2.64	-5.75	-2.83	174	-435	-145
	.99	.69	.89	-114.1	3.78	3.14	4.08	4.23	1.27	-1.68	-5.17	-1.77	165	-375	46
	.84	.61	.99	-109.0	4.26	3.45	4.25	4.41	1.34	-1.83	-5.44	-1.58	165	-442	-163
	.67	.70	.88	-99.3	4.73	4.05	4.69	4.26	1.17	-1.23	-4.93	-.61	225	-389	68
	.60	.81	.77	-88.8	5.17	4.32	4.98	3.92	.61	-.82	-4.39	.38	213	-354	53
	.34	.52	.83	-73.6	5.55	4.61	5.09	3.52	.03	-.48	-3.81	1.35	277	-373	-29
	.39	.64	.92	-60.9	5.94	4.78	5.12	3.51	.04	-.60	-3.94	1.57	210	-395	-133
	.20	.61	.94	-48.2	6.23	5.09	5.31	3.59	.25	-.62	-4.13	1.67	135	-382	-195
	.19	.78	.91	-37.5	6.42	5.16	5.47	3.61	.36	-.44	-4.13	1.87	124	-397	-111
	.02	.58	.86	-26.5	6.48	5.27	5.38	3.59	.40	-.49	-4.30	1.75	58	-353	-172
	.01	.60	.76	-17.7	6.53	5.33	5.44	3.46	.33	-.26	-4.18	1.93	23	-343	-137

COLUMNS 1 TO 12 ARE PERCENTAGE CHANGES FROM BASE RUN

[illegible] TABLE NINE

RAISING DESIRED LEVEL OF M0 BY 10%.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	PERCENTAGE CHANGE FROM BASE RUN														
	NOM GDP	NET WEALTH EXCLUDING REVALUATIONS	GROSS WEALTH EXCLUDING REVALUATIONS	NET WEALTH INCLUDING REVALUATIONS	GROSS WEALTH INCLUDING REVALUATIONS	£M3	M0	M1	PSL2	GILTS SHARE OF GROSS WEALTH	EXPTD INFLA-TION	EXPTD CAPTL GAINS	3 MTH I-BANK RATE	LONG RATE	RETURN ON GILTS REL TO MONEY
[illegible]	1.99	.30	2.14	2.35	3.06	2.50	3.81	5.94	1.31	.20	1.77	1.78	-2.61	-.59	2.66
[illegible]	[illegible]	.46	2.45	.66	2.89	1.49	6.27	7.74	.24	.55	1.23	3.08	-2.02	-.33	[illegible]
[illegible]	4.73	-1.22	2.43	-1.44	2.30	.79	7.13	8.11	-.23	.50	.90	2.28	-1.09	-.07	2.88
[illegible]	5.32	-1.87	2.37	-2.52	1.96	.26	6.74	7.44	-.31	.55	.32	1.37	[illegible]	.04	1.78
[illegible]	.72	[illegible]	2.13	4.37	3.65	3.53	1.80	3.89	2.40	.11	1.03	-2.97	-3.10	-.90	-2.14
[illegible]	2.36	.10	2.19	1.95	3.01	2.26	4.51	6.59	.99	.29	1.70	2.43	-2.54	-.53	3.34
[illegible]	3.82	[illegible]	2.59	.45	2.99	1.39	6.64	8.01	.14	.63	1.05	2.86	-1.94	-.31	3.65
[illegible]	4.95	-1.44	2.34	-2.10	1.95	.46	7.07	7.87	-.38	.46	.80	2.23	-.79	.02	2.76
[illegible]	5.40	-2.02	2.44	-2.67	2.02	.33	6.61	7.32	-.19	.55	.25	1.07	-.45	.04	1.44
1982 QTR 2	.28	.97	1.99	5.98	4.05	4.56	.76	2.54	3.29	-.08	.00	-8.45	-4.15	-1.29	-7.45
QTR 3	1.03	.85	1.90	3.48	3.01	2.99	1.50	3.39	2.08	-.06	1.02	-2.73	-2.22	-.66	-2.14
QTR 4	.63	.82	2.60	5.42	4.61	3.65	2.16	4.78	2.50	.58	1.29	-1.29	-3.58	-1.03	-.31
[illegible] QTR 1	1.50	.57	2.02	2.58	2.92	2.73	2.80	4.85	1.74	-.01	1.80	.58	-2.43	.61	1.34
QTR 2	1.50	.41	2.16	3.00	3.32	2.86	3.41	5.54	1.65	.20	1.85	1.02	-2.91	.70	1.94
QTR 3	2.42	.22	2.03	2.10	2.87	2.33	4.13	6.32	1.09	.14	1.82	2.05	-2.58	-.55	2.96
QTR 4	2.65	-.01	2.35	1.73	3.12	2.08	4.89	7.08	.75	.46	1.60	3.45	-2.52	-.50	4.30
[illegible] QTR 1	2.98	-.24	2.21	.97	2.73	1.75	5.61	7.44	.49	.37	1.55	3.19	-2.17	-.37	4.06
QTR 2	3.27	-.50	2.17	-.13	2.30	1.33	6.05	7.26	.13	.37	1.59	3.28	-1.60	.17	4.04
QTR 3	3.67	-.37	2.80	1.90	3.75	1.61	6.54	8.06	.30	.91	.75	3.13	-2.64	-.32	3.12
QTR 4	4.08	-.70	2.60	-.11	2.80	1.27	6.86	8.19	.05	.54	1.03	2.71	-1.68	-.23	3.47
[illegible] QTR 1	4.25	-.84	2.77	.15	3.13	1.34	7.09	8.53	.09	.69	.84	2.31	-1.83	-.29	3.09
QTR 2	4.69	-1.04	2.65	-1.05	2.55	1.17	7.27	8.26	.02	.47	1.04	1.83	-1.23	-.11	2.46
QTR 3	4.98	-1.37	2.42	-2.06	2.02	.61	7.17	8.02	-.34	.44	.94	2.39	-.82	.02	2.94
QTR 4	5.05	-1.63	2.10	-2.79	1.49	.03	6.98	7.64	-.68	.40	.77	2.58	-.48	.11	3.04
[illegible] QTR 1	5.12	-1.71	2.19	-2.50	1.74	.04	6.85	7.54	-.52	.53	.46	2.13	-.60	.05	2.60
QTR 2	5.31	1.75	2.35	-2.30	1.99	.25	6.86	7.50	-.35	.56	.32	1.36	-.62	.02	1.80
QTR 3	5.47	1.96	2.42	-2.69	1.96	.36	6.71	7.43	-.23	.52	.33	.98	-.44	.06	1.36
QTR 4	[illegible]	-2.09	2.53	-2.59	2.17	.40	6.55	7.31	-.12	.61	.18	1.00	-.49	.01	1.36
[illegible] QTR 1	5.44	-2.30	2.45	-3.09	1.96	.33	6.31	7.04	-.04	.52	.18	.95	-.26	.06	1.24

From: R B JOHNSTON
Date: 31 May 1984

MR BAYOUMI

cc Mr Sedgwick
Mr Riley
Mr Melliss
Mr Milne

SIMULTATIONS WITH MO

Thank you for your note of 24 May. Alistair Milne has been running some standard simulations with fixes on MO using the May model base. A note will be circulated on Monday. It would be opportune to discuss what to do next using the optional control program after we have seen Alistair's note. In the meantime I wonder whether you could confirm that the optional control simulations can be run on the May model base.

RBJ

R B JOHNSTON

UNCLASSIFIED

FROM: A MILNE
DATE: 4 JUNE 1984

MR JOHNSTON

cc Mr Sedgwick
Mr Riley
Mr Mowl
Mr Melliss
Mr Whittaker
Mr Bayoumi

SIMULATIONS WITH MO

I attach the results of running some standard model simulations with MO fixed. The simulations with a shock to earnings ran into some problems. They will be circulated when we have a meeting arranged.

A. Milne

A MILNE

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SIMULATIONS ON MAY MODEL BASE WITH M0 FIXED

The results of running some standard simulations with a fix on M0 are reported below. These are compared with fixes on the weighted monetary aggregate MAGGWT (50%M0, 50% £M3), on Notes and Coin and on nominal interest rates.

General Considerations

2. The May model base incorporates Peter Spencer's re-estimated banking sector equations described in Adam Bennett's FARG paper. As a result the till money component of M0 in now slightly more interest sensitive than notes and coin in circulation (contrary to the findings of Mr Johnston's GES Working Paper on narrow money) and therefore total M0 is a little more interest sensitive than Notes and Coin.

3. Sterling M3 is much less interest sensitive than M0 and so MAGGWT is less interest sensitive than either total M0 or Notes and Coin. Thus the ranking of these three aggregates according to their interest sensitivity is M0 followed by Notes and Coin, followed by MAGGWT. This ranking of the three aggregates according to interest sensitivity explains much of the difference between their simulation properties.

4. It is noteworthy that many of these simulations result in large twists of the yield curve. It would be preferable to obtain the fix on MAGGWT by the use of a funding policy instrument as well as by varying short term interest rates. This could perhaps be achieved by fixing both M0 (with interest rates) and £M3 (by funding An alternative would be to assign some cost to movements of both short and long term interest rates and use the Optimal Control technology to achieve the fix on MAGGWT. In either case the fix on MAGGWT is likely to be attained with smaller movements in short-term interest rates, than in the present simulations which may therefore mis-represent the consequences of fixing MAGGWT.

5. The MAGGWT simulations were run on both the published Dec model base and the internal May model base. The fiscal simulations and the shock to world trade were virtually the same on the two models and were also very similar to those reported when fixing the old MAGGWT on the published Dec model (PUBMODA in Rod Whittaker

and Penlope Rowlatt's academic panel paper AP(84)4. The exchange rate shock however reveals slightly different simulations on the two models. Both the Dec and May model simulations using MAGGWT are tabulated below.

Results

6. Table 1 shows the effects of an increase in public expenditure of £386mn. The interest rate responses are consistent with the relative interest sensitivity of the three monetary aggregates. The exchange rate appreciates slightly for the MAGGWT fix but depreciates for the MO fix. The response under the notes and coin fix is intermediate.

7. Table 2 and 3 shows the results of a cut in income tax and VAT. The income tax simulations are consistent with the relative interest sensitivity of the aggregates and again the exchange rate appreciates with a MAGGWT fix but depreciates with an MO fix. The VAT cut produces only a small response in £M3 and in MO (the latter because personal disposable income is only slightly affected) when nominal interest rates are fixed. For this reason interest rate movements under the fixed money simulations are small and the three VAT simulations differ little from each other.

8. Table 4 and 5 presents the results of a shock to world trade and an exchange rate appreciation respectively. Again the simulations in which monetary aggregates are fixed differ little from each other. This is perhaps because the effects of these external shocks on £M3 are very small indeed so the MAGGWT fix in effect amounts to a narrow money fix.

Conclusions

9. The main point arising from a comparison of these standard simulations with a narrow money and a MAGGWT fix is that because of the higher interest sensitivity of MO and Notes and coin achieving a narrow money target requires a smaller interest rate response than achieving a MAGGWT target, and results in a lower exchange rate. This is clearly apparent for public expenditure and income tax shocks, though other shocks result in very similar simulations across the various target regimes.

A MILNE

TABLE 1: PUBLIC EXPENDITURE + £386m (1980 Prices)

deviations from base		Fix on MAGGWT (50% MO, 50% £M3)		Fix on MO	Fix on Notes and coin	Fix on Nominal Interest Rat
Model base	Year	DEC	MAY	MAY	MAY	MAY
Real GDP	1	0.6	0.6	0.6	0.6	0.8
	2	0.5	0.5	0.6	0.5	0.8
	3	0.3	0.3	0.4	0.3	0.7
	4	0.2	0.1	0.3	0.2	0.6
	5	0.1	-0.1	0.1	0.1	0.5
RPI (Level of RPI)	1	0.3	0.3	0.3	0.2	0.3
	2	0.6	0.6	0.6	0.6	0.9
	3	0.9	1.0	1.2	1.1	1.7
	4	1.2	1.4	1.6	1.5	2.5
	5	1.3	1.5	2.0	1.7	3.2
£M3	1	0.2	0.1	0.2	0.2	0.6
	2	0.7	0.4	0.7	0.5	1.0
	3	0.9	0.7	0.9	0.7	1.4
	4	1.1	0.9	1.2	1.1	1.8
	5	1.4	1.3	1.7	1.5	2.3
RSHRT	1	0.6	0.6	0.5	0.5	-
	2	0.8	0.8	0.4	0.6	-
	3	0.9	0.9	0.6	0.8	-
	4	0.9	1.1	0.8	0.9	-
	5	1.1	1.2	0.8	0.9	-
RLONG	1	0.2	0.2	0.2	0.2	-
	2	0.3	0.3	0.1	0.2	-
	3	0.3	0.3	0.2	0.3	-
	4	0.4	0.4	0.3	0.3	-
	5	0.4	0.4	0.3	0.3	-
RX (Nominal effective Exchange Rate)	1	0.5	0.5	0.4	0.4	-0.6
	2	0.5	0.5	-0.4	-0.1	-1.4
	3	0.4	0.4	-0.3	0.2	-1.8
	4	0.4	0.5	-0.2	0.1	-2.4
	5	0.5	0.6	-0.6	-0.2	-3.0
PDY	1	0.6	0.5	0.5	0.5	0.6
	2	1.0	0.9	0.9	0.9	1.2
	3	1.2	1.2	1.4	1.3	2.2
	4	1.4	1.3	1.9	1.6	3.0
	5	1.4	1.4	2.0	1.7	3.6
MO	1	-0.2	-0.1	-	-0.0	0.5
	2	-0.7	-0.4	-	-0.2	0.3
	3	-0.9	-0.7	-	-0.4	0.1
	4	-1.1	-0.9	-	-0.5	0.0

TABLE 2: INCOME TAXES REDUCTION OF £382m (1980 prices)

Deviations from base		Fix on MAGGWT (50% MO, 50% £M3)		Fix on MO	Fix on Notes and coin	Fix on Nominal Interest Rat
Model base	Year	DEC	MAY	MAY	MAY	MAY
Reasl GDP	1	0.1	0.1	0.1	0.1	0.3
	2	0.1	0.1	0.2	0.2	0.5
	3	0.1	0.1	0.4	0.3	0.6
	4	0.2	0.2	0.5	0.4	0.6
	5	0.2	0.3	0.4	0.4	0.6
RPI	1	0.1	0.1	0.1	0.1	0.1
	2	0.1	0.0	0.1	0.1	0.5
	3	0.0	-0.1	0.3	0.2	0.9
	4	-0.2	-0.1	0.4	0.3	1.3
	5	-0.3	-0.1	0.6	0.4	1.6
£M3	1	0.3	0.2	0.3	0.3	0.9
	2	0.8	0.7	1.2	1.1	1.4
	3	1.2	1.2	1.6	1.3	1.8
	4	1.5	1.5	1.8	1.7	2.1
	5	1.8	1.8	2.2	2.0	2.4
RSHRT	1	0.8	0.9	0.8	0.8	-
	2	0.8	0.9	0.4	0.4	-
	3	0.8	0.8	0.3	0.6	-
	4	0.8	0.9	0.6	0.7	-
	5	0.9	1.0	0.5	0.6	-
RLONG	1	0.3	0.3	0.3	0.3	-
	2	0.3	0.3	0.1	0.1	-
	3	0.2	0.3	0.1	0.2	-
	4	0.3	0.3	0.2	0.2	-
	5	0.3	0.4	0.2	0.2	-
RX (Nominal effective Exchange Rate)	1	0.9	1.1	0.9	1.0	-0.6
	2	0.6	0.8	-0.4	-0.5	-1.5
	3	0.5	0.4	-0.8	-0.1	-1.7
	4	0.6	0.7	-0.4	-0.1	-2.0
	5	0.7	0.8	-0.8	-0.4	-2.4
PDY (Nominal personal disposable	1	1.0	1.0	1.0	1.0	1.2
	2	1.0	0.8	1.0	0.9	1.4
	3	0.7	0.6	1.1	1.0	1.9
	4	0.5	0.5	1.3	1.1	2.3
	5	0.4	0.5	1.5	1.2	2.7
MO	1	-0.3	-0.2	-	-0.1	0.8
	2	-0.8	-0.7	-	-0.1	1.1
	3	-1.2	-1.2	-	-0.4	1.4
	4	-1.5	-1.5	-	-0.6	1.7

TABLE 3: VAT REDUCTION OF 1%

% deviations from base		Fix on MAGGWT (50% MO, 50% £M3)		Fix on MO	Fix on Notes and coin	Fix on Nominal Interest Rat
Model base	Year	DEC	MAY	MAY	MAY	MAY
Real GDP	1	0.1	0.1	0.2	0.2	0.1
	2	0.3	0.3	0.4	0.4	0.4
	3	0.3	0.4	0.4	0.4	0.5
	4	0.3	0.4	0.4	0.3	0.5
	5	0.2	0.3	0.3	0.2	0.4
RPI (Level of RPI)	1	-0.6	-0.6	-0.6	-0.6	-0.6
	2	-0.6	-0.7	-0.6	-0.5	-0.6
	3	-0.6	-0.7	-0.5	-0.4	-0.5
	4	-0.5	-0.6	-0.3	-0.2	-0.2
	5	-0.4	-0.5	-0.1	-0.1	0.0
£M3	1	0.1	0.1	0.2	0.3	0.2
	2	0.3	0.3	0.4	0.4	0.4
	3	0.5	0.4	0.6	0.6	0.7
	4	0.6	0.5	0.7	0.6	0.8
	5	0.7	0.6	0.8	0.7	1.0
RSHRT	1	0.1	0.1	0.0	-0.2	-
	2	0.2	0.1	0.0	0.1	-
	3	0.3	0.2	0.1	0.2	-
	4	0.3	0.2	0.2	0.2	-
	5	0.3	0.3	0.2	0.3	-
RLONG	1	0.0	0.0	0.0	-0.1	-
	2	0.1	0.0	0.0	0.0	-
	3	0.1	0.1	0.1	0.1	-
	4	0.1	0.1	0.1	0.1	-
	5	0.1	0.1	0.1	0.1	-
RX (Nominal effective Exchange Rate)	1	0.1	0.1	-0.1	-0.4	0.0
	2	0.1	0.0	-0.4	-0.3	-0.4
	3	0.1	0.0	-0.4	-0.3	-0.6
	4	0.1	0.0	-0.4	-0.2	-0.7
	5	0.1	0.1	-0.4	-0.2	-0.9
PDY (Nominal Personal disposable income)	1	-0.1	-0.2	-0.1	-0.1	-0.2
	2	-0.1	-0.2	-0.1	-0.0	-0.1
	3	0.0	-0.1	0.2	0.2	0.2
	4	0.1	0.0	0.4	0.4	0.5
	5	0.2	0.1	0.6	0.5	0.8
M0	1	-0.1	-0.1	-	0.2	0.0
	2	-0.3	-0.3	-	-0.0	-0.1
	3	-0.5	-0.4	-	-0.1	0.1
	4	-0.6	-0.5	-	-0.2	0.3

[illegible]

% deviations from base		Fix on MAGGWT (50% MO, 50% £M3)		Fix on MO	Fix on Notes and coin	Fix on Nominal Interest Ra[illegible]
Model base	Year	DEC	MAY	MAY	MAY	MAY
Real GDP	1	0.7	0.7	0.7	0.7	0.8
	2	0.7	0.8	0.8	0.7	1.0
	3	0.7	0.7	0.6	0.6	0.9
	4	0.6	0.6	0.5	0.5	0.8
	5	0.6	0.5	0.5	0.5	0.7
RPI	1	0.0	0.0	0.0	0.0	0.0
	2	0.1	0.1	0.1	0.1	0.2
	3	0.2	0.3	0.3	0.2	0.6
	4	0.3	0.4	0.5	0.4	1.0
	5	0.3	0.5	0.5	0.4	1.2
£M3	1	-0.1	0.0	0.0	0.0	0.2
	2	0.0	0.1	0.1	0.0	0.5
	3	0.2	0.1	0.0	-0.0	0.5
	4	0.1	0.0	-0.1	-0.1	0.4
	5	0.1	0.0	-0.1	-0.1	0.3
RSHRT	1	0.4	0.3	0.2	0.3	-
	2	0.5	0.5	0.4	0.5	-
	3	0.5	0.4	0.4	0.5	-
	4	0.3	0.4	0.5	0.5	-
	5	0.4	0.4	0.5	0.5	-
RLONG	1	0.1	0.1	0.1	0.1	-
	2	0.2	0.2	0.1	0.2	-
	3	0.2	0.1	0.1	0.2	-
	4	0.1	0.1	0.2	0.2	-
	5	0.2	0.2	0.2	0.2	-
RX (Nominal effective Exchange Rate)	1	1.1	0.9	0.9	0.9	0.4
	2	1.5	1.4	1.2	1.4	0.4
	3	1.4	1.3	1.3	1.4	0.1
	4	1.4	1.3	1.5	1.6	0.1
	5	1.4	1.4	1.5	1.5	0.0
PDY (Nominal personal disposable	1	0.3	0.3	0.3	0.3	0.3
	2	0.7	0.7	0.7	0.7	1.0
	3	0.9	0.9	0.9	0.9	1.4
	4	0.9	1.0	1.0	0.9	1.8
	5	1.0	1.1	1.0	0.9	2.0
MO	1	0.1	0.0	-	[illegible]	0.3
	2	0.0	-0.1	-	[illegible]	0.7
	3	-0.2	-0.1	-	[illegible]	1.1
	4	[illegible]	[illegible]		[illegible]	[illegible]

Deviations from base		Fix on MAGGWT (50% MO, 50% £M3)		Fix on MO	Fix on Notes and coin	Fix on Nominal Interest Ra
Model base	Year	DEC	MAY	MAY	MAY	MAY
Real GDP	1	-0.1	-0.1	-0.2	-0.1	-0.2
	2	-0.1	-0.1	-0.2	-0.1	-0.4
	3	0.1	-0.0	0.1	0.2	-0.3
	4	0.2	0.2	0.3	0.3	-0.2
	5	0.4	0.4	0.3	0.4	-0.1
RPI	1	-0.8	-0.3	-0.8	-0.8	-0.8
	2	-1.7	-1.2	-1.8	-1.7	-1.9
	3	-2.2	-2.1	-2.4	-2.2	-2.7
	4	-2.6	-2.7	-2.8	-2.5	-3.5
	5	-2.7	-3.1	-3.0	-2.7	-4.2
£M3	1	-0.2	0.0	-0.2	0.0	-0.4
	2	-0.1	-0.1	-0.1	0.1	-0.5
	3	0.1	0.0	0.1	0.1	-0.7
	4	0.1	0.0	-0.1	-0.1	-0.9
	5	-0.1	0.0	-0.3	-0.3	-1.0
RSHRT	1	-0.6	-0.2	-0.3	-0.5	-
	2	-0.6	-0.5	-0.5	-0.8	-
	3	-0.7	-0.7	-0.9	-1.0	-
	4	-0.9	-0.9	-1.0	-1.0	-
	5	-1.0	-1.0	-0.9	-1.0	-
RLONG	1	-0.2	-0.1	-0.1	-0.2	-
	2	-0.3	-0.2	-0.2	-0.3	-
	3	-0.4	-0.2	-0.3	-0.3	-
	4	-0.4	-0.3	-0.3	-0.4	-
	5	-0.4	-0.3	-0.3	-0.4	-
RX (Nominal effective Exchange Rate)	1	4.3	2.4	4.7	4.3	5.2
	2	3.4	3.3	3.8	3.1	5.0
	3	3.5	3.3	3.1	2.8	5.3
	4	3.5	3.4	3.4	3.1	6.1
	5	3.4	3.5	3.8	3.3	6.6
PDY (Nominal Personal disposable income)	1	-0.4	-0.1	-0.3	-0.5	-0.4
	2	-1.3	-0.8	-1.3	-1.1	-1.5
	3	-1.8	-1.6	-1.9	-1.7	-2.6
	4	-2.0	-2.1	-2.2	-1.9	-3.4
	5	-1.9	-2.3	-2.3	-1.9	-3.9
MO	1	0.2	0.0	-	0.2	-0.3
	2	0.1	-0.2	-	0.1	-0.8
	3	-0.1	0.0	-	0.1	-1.8
	4	-0.1	0.0	-	0.1	-2.6