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## Monetary Policy Alternatives

## Prepared for the Federal Open Market Committee

By the staff of the Board of Governors of the Federal Reserve System

## Strictly Confidential (E.R.) <br> August 15, 1997 <br> Class I -- FOMC

## MONETARY POLICY ALTERNATIVES

## Recent Developments

(1) Over the intermeeting period, the federal funds rate averaged $5-1 / 2$ percent, its intended level since March, while most other market interest rates declined (Chart 1). Private short-term rates fell by as much as 10 basis points. ${ }^{1}$ Futures rates for federal funds and Eurodollars continue to suggest that markets expect policy to remain on hold for several months and see relatively low odds on a tightening thereafter. Longer-term nominal yields were down 15 to 25 basis points, but yields on indexed debt were about unchanged, suggesting that a slight reduction in long-term inflation compensation accounted for the drop in nominal yields. Earlier in the period, optimism about inflation apparently had become even greater--sparked by favorable price and labor cost data, along with the market's take on the Chairman's Humphrey-Hawkins testimony--and by late July nominal note and bond yields had fallen almost $1 / 2$ percentage point. Since then, bond prices and the foreign exchange value of the dollar have partly reversed their earlier increases; prompted initially by reports of large gains in employment in July and of strength in manufacturing output and price pressures in the July NAPM survey results, market participants seem to have been reassessing whether they hadn't become a little too optimistic about structural changes damping cyclical inflation pressures. With less certainty about the inflation outlook, market reactions to incoming data have been especially pronounced, and volatility in financial markets has risen considerably.

[^1]

Stock prices also have slipped in recent weeks and dropped sharply today, erasing most of the large advances registered earlier in the period.
(2) The trade-weighted value of the dollar has gained about $3-1 / 2$ percent on balance over the intermeeting period. This appreciation occurred even though interest rate differentials between dollar and foreign currency assets were little changed, averaging across countries. In part, the dollar's increase reflected concerns about developments in Continental Europe, where a variety of policy decisions raised new doubts about potential EMU members' longer-term commitment to sound macroeconomic policies. The dollar has appreciated 4-1/2 percent against the DM despite the fact that German interest rates fell somewhat less than U.S. rates; as the fall in the DM deepened, market participants came to the view that the Bundesbank might soon raise rates to stem the decline. Elsewhere, the Bank of England increased its repo rate twice over the intermeeting period, but indicated that this cycle of tightening may be at or near its end, thereby weakening the pound, which fell 3 percent relative to the dollar. New data suggesting that the Japanese economy is not rebounding quickly from the recent consumption tax increase put downward pressure on the yen over the intermeeting period. This tendency was offset to some extent by concerns about divergent trends in U.S. and Japanese current account positions. For the period as a whole, the yen is down 2-1/2 percent against the dollar. Financial turmoil in Thailand spilled over to several other developing countries, primarily in Southeast Asia. The currencies of a number of Southeast Asian countries have fallen 5 to 30 percent relative to the dollar since the beginning of July as several central banks have been forced to abandon arrangements aimed at limiting exchange rate fluctuations. A package of financial assistance and policy actions for the Thai
economy has been announced.
; the Desk did not intervene.
(3) Growth of M2 in July, at a 4-1/2 percent rate, remained near the moderate pace of June. Data for early August suggest a pickup in M2 growth, owing particularly to inflows to retail money funds, which may be related to the recent jitters in the stock market. From the fourth quarter of last year through July, this aggregate expanded at a 5 percent pace, a shade faster than expected at the time of the last Committee meeting. The velocity of M2 edged down in the second quarter, owing to a slight narrowing of opportunity costs, ending the sequence of upticks seen over the previous four quarters. ${ }^{2}$ M3 growth surged to a 10-3/4 percent rate in July, even though adjusted bank credit growth slowed; issuance of large time deposits was particularly strong, replacing overseas sources of funding at foreign banks and a runoff of government deposits at domestic banks. Moreover, institution-only money funds posted another month of rapid growth, as their yields lagged the decline in private short-term interest rates and they evidently continued to substitute for in-house cash management by businesses. From the fourth quarter of 1996 through July, M3 grew at a 7-1/2 percent rate, substantially faster than the staff had anticipated.
(4) Private debt growth appears to have slowed a little from its brisk pace earlier in the year, owing largely to a softening in household borrowing. Business borrowing has risen in recent months, reflecting strength in capital spending. Financing conditions for the

[^2]business sector remain quite favorable; indeed, quality spreads on junk bonds have edged lower recently, and in survey responses a sizable fraction of banks reported a further decrease in loan rate spreads from already narrow levels. Although banks, on balance, have continued to tighten standards on consumer credit, the proportion doing so declined in the most recent survey. A high level of tax receipts enabled the Treasury to pay down debt in May and June, appreciably slowing the growth of total nonfinancial debt. From the fourth quarter of last year through June, domestic nonfinancial debt grew at a 4-1/2 percent annual rate, just below the middle of its annual range.

# MONEY, CREDIT, AND RESERVE AGGREGATES 

(Seasonally adjusted annual rates of growth)


## Money and Credit Aggregates

| M1 | -2.7 | 0.6 | -1.2 | -2.5 |
| :--- | ---: | ---: | ---: | ---: |
| Adjusted for sweeps | 6.1 | 5.0 | 3.1 | 5.2 |
| M2 | -0.1 | 4.6 | 4.4 | 4.9 |
| M3 | 1.5 | 5.7 | 10.7 | 7.6 |
|  |  |  |  |  |
| Domestic nonfinancial debt | 3.9 | 2.6 | n.a. | 4.5 |
| $\quad$ Federal | -3.9 | -3.9 | n.a. | 0.5 |
| $\quad$ Nonfederal | 6.6 | 4.8 | n.a. | 5.9 |
| $\quad$ Bank Credit $^{\text {Adjusted }}$ 1 | 2.3 | 6.9 | 10.2 | 8.6 |
|  | 5.0 | 7.7 | 6.2 | 8.1 |

## Reserve Measures

| Nonborrowed Reserves $^{2}$ | -9.3 | -1.6 | -6.4 | -9.9 |
| :--- | ---: | ---: | ---: | ---: |
| Total Reserves | -9.7 | 1.5 | -5.3 | -9.3 |
| $\quad$ Adjusted for sweeps | 8.8 | 9.6 | 4.0 | 6.9 |
| $\quad$ Monetary Base | 3.6 | 4.7 | 7.5 | 4.9 |
| $\quad$ Adjusted for sweeps | 5.7 | 5.7 | 8.3 | 6.7 |

Memo: (millions of dollars)

| Adjustment plus seasonal <br> borrowing | 243 | 367 | 409 | -- |
| :--- | :---: | :---: | :---: | :---: |
| Excess Reserves | 1240 | 1280 | 1211 | -- |

1. Adjusted to remove effects of mark-to-market accounting rules (FIN 39 and FASB 115).
2. Includes "extended credit" from the Federal Reserve.
3. For nonfinancial debt, 96:Q4 to June.

NOTE: Monthly reserve measures including excess reserves and borrowing are calculated by prorating averages for two-week reserve maintenance periods that overlap months. Reserve data incorporate adjustments for discontinuities associated with changes in reserve requirements.

## Policy Alternatives

(5) In the staff forecast, near-term growth has been revised down considerably because inventory investment is expected to downshift from its surprisingly fast pace in the first half. At the same time, the staff has revised up slightly its assessment of trend growth in productivity and potential GDP. Still, the basic picture remains one of an economy that will continue to operate above its potential, generating a gradual rise in inflation. Next year, final demand growth is expected to slow, owing partly to the lagged effects of the recent strength in the dollar, some rise in interest rates, and accelerator effects on business and household capital expenditures. But this slowdown is not sufficient to relieve pressures on resources, and both total and core consumer price inflation are forecast to edge up to 2-3/4 percent by the end of 1998. The staff projections of output growth and inflation in both 1997 and 1998 are near the lower ends of the central tendencies of FOMC members' projections made last month.
(6) With the risks apparently still tilted toward higher inflation, this document presents the two basic policy options discussed in recent bluebooks: no change and tighter. Under alternative B, the intended federal funds rate would be kept at its current level of 5-1/2 percent. Under alternative $C$, it would be boosted to $5-3 / 4$ percent, either through reduced provision of nonborrowed reserves or a hike in the discount rate.
(7) Despite the updrift in inflation projected by the staff, the Committee may elect to maintain the current stance of monetary policy for the time being by choosing alternative B. Regardless of any longer-term risks, any likelihood of losing substantial ground
against inflation in the period just ahead appears to be remote: Inflation expectations seem to have declined in recent months, which should help to moderate for a time any turnaround in actual price increases; and, at this stage of the investment cycle and with consumers already having responded to their increased wealth, the odds on a marked upside surprise in final demand would seem to be lower than they might have appeared earlier. Moreover, the real federal funds rate has been rising this year from an already high level, owing to the Committee's firming of policy in March and the apparent decline in inflation expectations since then, providing some assurance that policy is not substantially too accommodative. Financial aggregates could be read in the same light, with both M2 and debt, the two aggregates most closely related to nominal GDP, expanding moderately. ${ }^{3}$ In the staff forecast, the rise in inflation is gradual, so that once the potential for an upswing in inflation became more clearly evident, the Committee should have time to act before the economy's long-run health were seriously threatened. Indeed, whether the structure of the economy has changed in ways that make it somewhat less inflation-prone, at least for a time, than allowed for by the staff projection remains an open question.
(8) Market participants uniformly do not expect a near-term policy move by the Federal Reserve, and selection of alternative B by the Committee should elicit little immediate market reaction. Thus, short-term interest rates generally would remain close to current levels, as would the foreign exchange value of the dollar, though Treasury bill rates could continue to edge up as supply constraints ease further with the seasonal widening of the

[^3]federal deficit. In longer-term markets, prices are likely to remain more volatile than over the spring and early summer as participants assess incoming data for clues about whether the recent exceptional confluence of strong growth, high levels of resource utilization, and low inflation can persist. However, data over the intermeeting period consistent with the staff forecast would likely prove somewhat reassuring in this regard, because they would show the economy growing at a moderate pace and inflation remaining damped. In these circumstances, long-term yields could move lower over the weeks ahead.
(9) Moderating growth in output will still leave utilization in the labor market substantially above levels that in the past have been associated with accelerating prices. If the Committee wants more insurance against the possibility that inflation will begin to pick up, and especially if it wishes to tilt the odds a little in the direction of further progress toward price stability over coming years, it may wish to raise the intended federal funds rate at this meeting, perhaps by the 25 basis points of alternative $C$. With strong demand over the past year and a half propelling the economy beyond the level of its estimated potential, real short-term rates might be seen as having been below their equilibriums. One reason for this situation may be that, despite a high real federal funds rate relative to its historical average, financial market conditions evidently have been supportive of spending--spreads faced by private borrowers are quite narrow and equity prices remain at a high level. Although inflation performance has been surprisingly good of late, the effects of a stronger dollar have played an important role that is not likely to be repeated in the next few years, and signs of resurgent labor militancy may indicate reduced worker insecurity. Although inflation expectations have fallen, the recent volatility in financial markets suggests that in
those markets such expectations may not be firmly anchored, and could turn around reasonably quickly once inflation begins to pick up. In those circumstances, delaying policy action ultimately could turn out to be costly in terms of economic performance.
(10) With no near-term tightening expected, the market response to implementation of alternative $C$ could be sharp. Short-term market rates would jump by the full 25 basis point increase in the funds rate; the prime rate likely would be lifted by an equivalent amount. Bond markets would sell off as well. Investors would have difficulty interpreting such an action in light of developments over the intermeeting period, and their response might be shaped in part by the Federal Reserve's announcement. Participants might well think that the action represented a one-time adjustment to rebalance risks, in which case the response would tend to be muted. But more pronounced decreases in bond prices can not be ruled out because investors might interpret the action as signifying that the Federal Reserve had reassessed its fundamental outlook and now saw a more serious and sustained inflation threat that would call for further tightening actions. If so, the value of the dollar on foreign exchange markets probably would strengthen considerably. In either case, equity prices almost certainly would fall, as real interest rates rose, and the decline could be considerable if capital losses spurred investors to reexamine their assumptions regarding the risks of equity investments.
(11) Under the unchanged federal funds rate of alternative $\mathrm{B}, \mathrm{M} 2$ is projected to grow at a moderate 4-1/2 percent rate on average over the remaining months of the year, around the expected rate of expansion of nominal GDP, leaving this aggregate a little below the upper limit of its 1 to 5 percent growth range for the year. The increase in M3 is likely
to slow somewhat, as factors that have temporarily been boosting managed liabilities in that aggregate dissipate, but M3 growth will probably continue to be fueled by a shift in institutional cash management toward money market funds. This aggregate is expected to finish the year more than a percentage point higher than its 2 to 6 percent annual range, somewhat above the staff's projection in the July bluebook. Although the federal government will shift to being a net borrower in credit markets over the balance of the year, the growth of its debt will be restrained by the narrow deficit. At the same time, the level and pattern of borrowing by private sectors is not anticipated to change significantly, producing moderate growth in the debt of all nonfinancial sectors--near the middle of its 3 to 7 percent range and in line with nominal GDP.

## Alternative Levels and Growth Rates for Key Monetary Aggregates



## Actual and Projected M2



## Actual and Projected M3



## Actual and Projected Debt



## Directive Language

(12) Shown below is (1) standard draft wording for the operational paragraph of the directive that incorporates the usual options for Committee consideration and (2) possible alternate wording that would include specific reference to the federal funds rate. The alternate wording is identical to that in Don Kohn's memorandum dated August 14, 1997.

## OPERATIONAL PARAGRAPH

STANDARD VERSION
In the implementation of policy for the immediate future, the Committee seeks to INCREASE (SLIGHTLY/SOMEWHAT)/maintain/DECREASE (SLIGHTLY/SOMEWHAT) the existing degree of pressure on reserve positions. In the context of the Committee's longrun objectives for price stability and sustainable economic growth, and giving careful consideration to economic, financial, and monetary developments, somewhat (SLIGHTLY) greater reserve restraint would (MIGHT) or (SOMEWHAT) slightly lesser reserve restraint (WOULD) might be acceptable in the intermeeting period. The contemplated reserve conditions are expected to be consistent with moderate growth in M2 and M3 over coming months.

## ALTERNATE WORDING

## First Sentence:

Current Wording: In the implementation of policy for the immediate future, the Committee seeks to maintain/decrease/increase (somewhat/slightly) the existing degree of pressure on reserve positions.

June Bluebook Proposal: In the implementation of policy for the immediate future, the Committee seeks to maintain current/tighten/ease (somewhat/slightly) conditions in reserve markets consistent with the federal funds rate remaining/increasing/decreasing at/to an average of around _ percent.

New Alternative: In the implementation of policy for the immediate future, the Committee seeks conditions in reserve markets consistent with maintaining/raising/lowering the federal funds rate at/to an average of around _ percent.

## Second Sentence:

Current Wording: In the context of the Committee's long-run objectives for price stability and sustainable economic growth and giving careful consideration to economic, financial, and monetary developments, (somewhat/slightly) greater reserve restraint would/might or (somewhat/slightly) lesser reserve restraint would/might be acceptable in the intermeeting period.

June Bluebook Proposal: In the context of the Committee's long-run objectives for price stability and sustainable economic growth and giving careful consideration to economic, financial, and monetary developments, decisions regarding the desirability of adjusting the federal funds rate during the intermeeting period should give:
(1) equal weight to developments indicating a need to tighten or ease the stance of policy;
(2) greater weight to developments indicating a need to tighten/ease the stance of policy.

New Alternative 1: In the context of the Committee's long-run objectives for price stability and sustainable economic growth and giving careful consideration to economic, financial, and monetary developments, decisions regarding the desirability of adjusting reserve conditions during the intermeeting period should give:
(1) equal weight to developments indicating a need to raise or lower the federal funds rate;
(2) greater weight to developments indicating a need to (raise than to lower) (lower than to raise) the federal funds rate.

New Alternative 2: In the context of the Committee's long-run objectives for price stability and sustainable economic growth and giving careful consideration to economic, financial, and monetary developments, the Committee believes that
(1) incoming information is equally likely to warrant a tightening as an easing of reserve conditions. Accordingly, decisions regarding the desirability of adjustments to policy during the intermeeting period should give equal weight to developments indicating a need to raise or lower the federal funds rate;
(2) incoming information is more likely to warrant (a tightening rather than an easing) (an easing rather than a tightening) of reserve conditions. Accordingly, decisions regarding the desirability of adjustments to policy during the intermeeting period should give greater weight to developments indicating a need to (raise than to lower) (lower than to raise) the federal funds rate.

SELECTED INTEREST RATES
(percent)




rate mortgages (ARMs) at major instiutional lenders offering both FRMs and ARMs with the seme number of discount points.

[^4]

Adjusted for breaks caused by reclassifications
p
preliminary estimate


Includes money market deposit accounts.
Includes retail repurchase agreements. All IRA and Keogh accounts at commercial banks and thrift institutions are subtracted from small time deposits.
Excludes IRA and Keogh accounts.
Net of large denomination time deposits held by money market mutual funds, depository institutions, U.S. government, and foreign banks and official institutions Net of money market mutual fund holdings of these items.
. Includes both overnight and term
P preliminary

| August 15, 1997Period |  | Millions of dollars, not seasonally adjusted |  |  |  |  |  |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | Treasury bills |  |  | Treasurycoupons |  |  |  |  |  | $\qquad$ | Net change outright holdings total 4 | Net RPs ${ }^{5}$ |
|  |  | Netpurchases ${ }^{2}$ | $\begin{gathered} \text { Redemptions } \\ (-) \end{gathered}$ | $\begin{gathered} \text { Net } \\ \text { change } \end{gathered}$ | Net purchases ${ }^{3}$ |  |  |  | $\begin{gathered} \text { Redemptions } \\ (-) \end{gathered}$ | Net Change |  |  |  |
|  |  | $\begin{aligned} & \text { within } \\ & 1 \text { year } \end{aligned}$ |  |  | 1.5 | 5-10 | over 10 |  |  |  |  |  |
| 1994 |  |  | 17.484 | $\cdots$ | 17,484 | 1,238 | 9,168 | 3,818 | 3,606 | 2,337 | 15,493 | 942 | 32,035 | -7,412 |
| 1995 |  | 10,932 | 900 | 10,032 | 390 | 5,366 | 1,432 | 2,529 | 1,776 | 7,941 | 1,103 | 16,870 | -1,023 |
| 1996 |  | 9,901 | -- | 9,901 | 524 | 3,898 | 1,116 | 1,655 | 2,015 | 5,179 | 409 | 14,670 | 5,351 |
| 1996 | -.-at | $\cdots$ | --- | ... | $\cdots$ | ... | $\cdots$ | $\cdots$ | 1,228 | -1,228 | 108 | -1,336 | -8,879 |
|  | ---Q2 | 3,399 | ... | 3,399 | 65 | 1,839 | 654 | 920 | 787 | 2,691 | 138 | 5,952 | 2,959 |
|  | ---23 | ... | -.- | -.. | 459 | 2,060 | 462 | 735 | ... | 3,716 | 79 | 3,637 | -2,454 |
|  | ---Q4 | 6,502 | --- | 6,502 | --- | -.- | -- | --- | .-. | --- | 85 | 6,417 | 13,726 |
| 1997 | --01 | $\cdots$ | $\cdots$ | $\cdots$ | 818 | 3,985 | $\cdots$ | 1,117 | 607 | 5,314 | 230 | 5,084 | -18,046 |
|  | ---Q2 | 4,602 | ... | 4,602 | 877 | 5,823 | 1,233 | 10,050 | 376 | 9,451 | 498 | 13,555 | 12,811 |
| 1996 | August | $\cdots$ | -.. | ... | 459 | 2,060 | 462 | 735 | --- | 3,716 | ... | 3,716 | -9,267 |
|  | September | -.- | -.. | $\cdots$ | ... | --- | -.. | --- | ... | .-. | 27 | -27 | -304 |
|  | October | $\cdots$ | ... | $\ldots$ | --- | .-- | --- | --- | --. | -.- | 63 | -63 | 3,625 |
|  | November | 6,502 | -- | 6,502 | --- | --- | --- | --- | --- | --- | 10 | 6,492 | 584 |
|  | December | --- | -.- | --- | --- | --- | -.- | ... | --- | ... | 12 | -12 | 9,518 |
| 1997 | January | $\cdots$ | $\cdots$ | $\cdots$ | $\cdots$ | $\cdots$ | --- | $\cdots$ | 607 | -607 | 187 | -793 | $-10,151$ |
|  | February | --- | --- | --- | 818 | 1.125 | -.- | $\cdots$ | .-. | 1,943 | 27 | 1,916 | -7,371 |
|  | March | $\cdots$ | ... | --- | .-. | 2,861 | ... | 1,117 | $\cdots$ | 3,978 | 17 | 3,961 | -524 |
|  | April | 4,006 | --- | 4,006 | --- | 1,924 | --- | --- | 376 | 1.548 | 24 | 5,530 | 41,665 |
|  | May | $\cdots$ | -.. | --- | 383 | 1,102 | 734 | 988 | ... | 3,206 | - | 3.206 | -42,664 |
|  | June | 596 | ..- | 596 | 494 | 2,797 | 499 | 9,062 | --- | 4,696 | 474 | 4,818 | 13,811 |
|  | July | ... | --- | -.. | --- | ... | --- | --- | 598 | -598 | 27 | -625 | -12,740 |
| Weekly |  |  |  |  |  |  |  |  |  |  |  |  |  |
| April | 30 | --- | --- | -.. | $\cdots$ | 1,924 | --- | $\cdots$ | --- | 1,924 | 14 | 1,910 | 27,694 |
| May | 7 | -.- | $\cdots$ | --- | se- | --- | $\cdots$ | 988 | ... | 988 | --- | 988 | -25,562 |
|  | 14 | $\cdots$ | $\cdots$ | $\cdots$ | 383 | 1,102 | 734 | -- | --- | 2,218 | --- | 2,218 | -13,014 |
|  | 21 | -.. | --. | --- | -.. | $\cdots$ | ... | --- | ... | --- | $\cdots$ | ... | -2,803 |
|  | 28 | --- | -.. | -.- | --- | ... | --. | ... | -.- | .-. | --- | --- | $-3,375$ |
| June 4 | 4 | ... | --- | $\cdots$ | --- | .-- | ..- | .-. | ..- | --- | 307 | -307 | 10,757 |
|  | 11 | --- | $\cdots$ | $\cdots$ | -- | .-- | $\cdots$ | --- | --- | $\cdots$ | 67 | -67 | -4,583 |
|  | 18 | $\cdots$ | --- | $\cdots$ | 494 | 1.155 | --- | $\cdots$ | --- | 1,649 | 100 | 1,549 | 3,511 |
|  | 25 | 596 | --- | 596 | --- | 1,642 | $\cdots$ | $\cdots$ | ... | 1,642 | - | 2,238 | 4,393 |
| July | 2 | --- | -.- | --- | --- | ... | 499 | 906 | --- | 1,405 | --- | 1,405 | -9,119 |
|  | 9 | ... | $\cdots$ | --- | - | --- | --- | $\cdots$ | $\ldots$ | ... | $\ldots$ | $\ldots$ | $-1,390$ |
|  | 16 | --- | --- | --- | --- | $\cdots$ | ... | --- | 598 | -598 | 27 | -625 | 2,631 |
|  | 23 | ... | --- | ... | ..- | ... | --- | $\ldots$ | --- | .-. | --- | ... | -5,356 |
| August | 30 | ... | --- | --- | --- | -.. | -.. | -.. | ... | $\cdots$ | --- | -- | 6,303 |
|  |  | --- | ... | ... | --- | ... | ..- | --- | .-. | --- | 164 | -164 | $-3,773$ |
|  | 13 | $\cdots$ | --- | $\cdots$ | $\cdots$ | $\cdots$ | -- | $\cdots$ | $\cdots$ | $\cdots$ | 15 | -15 | 9,191 |
| Memo: LEVEL (bill \$ ${ }^{6}$ |  |  |  |  |  |  |  |  |  |  |  |  |  |
| August | 13 |  |  | 209.6 | 38.6 | 93.2 | 39.0 | 44.0 |  | 214.8 |  | 424.3 | -13.0 |

1. Change from end-of-period to end-ot-period.
2. Outright transactions in market and with foreign accounts.
3. Outright transactions in market and with foreign accounts, and short-term notes acquired
in exchange for maturing bills. Excludes maturity shifts and rollovers of maturing issues.
4. Reflects net change in redemptions $(\cdot)$ of Treasury and agency securities
5. Includes change in RPs $(+)$, matched sale-purchase transactions $(-)$, and matched purchase sale transactions $(+)$.
6. The levels of agency issues were as follows:

| within <br> i year | 1.5 | 5.10 | over 10 | total |
| :---: | :---: | :---: | :---: | :---: |
| 0.4 | 0.4 | 0.3 | 0.0 | 1.1 |


[^0]:    ${ }^{1}$ In some cases, original copies needed to be photocopied before being scanned into electronic format. All scanned images were deskewed (to remove the effects of printer- and scanner-introduced tilting) and lightly cleaned (to remove dark spots caused by staple holes, hole punches, and other blemishes caused after initial printing).
    ${ }^{2}$ A two-step process was used. An advanced optimal character recognition computer program (OCR) first created electronic text from the document image. Where the OCR results were inconclusive, staff checked and corrected the text as necessary. Please note that the numbers and text in charts and tables were not reliably recognized by the OCR process and were not checked or corrected by staff.

[^1]:    ${ }^{1}$ In contrast to private rates, Treasury bill rates rose over the intermeeting period, as the Treasury shifted from paying down to issuing bills, on net.

[^2]:    ${ }^{2}$ Measured opportunity costs narrowed in the second quarter despite the Committee's policy firming in March, as the contracting supply of Treasury bills put downward pressure on their rates. Partly reflecting this rate decline, the runoff of outstanding bills obtained through noncompetitive tenders intensified.

[^3]:    ${ }^{3}$ The relatively brisk advance of M3 seems to be driven primarily by the funding choices of depositories and well as shifts in business cash management practices favoring money funds, both of which bear little relationship to cyclical pressures.

[^4]:    p-preliminary dala

