

**MEMORANDUM**

**TO:** U.S. Treasury Officials  
**FROM:** Kathleen Stephansen *KS*  
**DATE:** September 28, 1999  
**RE:** Treasury Redemption Operations

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In the August refunding announcement, the Treasury cited three reasons for its decision to undertake buy-back operations.

- Buy-backs preserve market liquidity by reducing the need to cut the sizes or frequency of new issues.
- Buy-backs could enhance control over the maturity structure of the debt, since there will be less need to reduce the sizes or frequency of new issues.
- Buy-backs can be used as a cash management tool, absorbing excess cash in periods such as late April, when cash balances rise sharply thanks to inflows of revenues well in excess of outlays.

These reasons lead us to the following observations:

- 1) Preserving liquidity while retiring debt implies that the prime objective is to match the maturity of the debt to be retired with the maturity of the debt to be issued. By doing so, the Treasury also preserves the maturity structure of debt. Of all the coupon issues being raised each quarter, the two-to five-year maturity tranche represents close to 70% of the total, thereby offering the largest pool of maturing debt. This suggests that the Treasury could buy back debt within that maturity range, without affecting the average length of the debt outstanding. Within that range, the Treasury may decide, when conducting a specific buy-back operation, whether it would target a narrow maturity area (say buying back the two-to three-year maturity tranche) or a broad area. The answer will much depend on market conditions and price levels at the time of the announcement.
- 2) In order for the program to be successful as a cash management tool, the reverse auction system need be flexible and efficient. Dealer participation in a reverse auction is a key factor for improved market efficiency. Participation is largely a function of a dealer's relative share in the Treasury market. In addition, information on the buy-back operation is important. The Treasury should specify each issue it intends to buy back along with an approximate total amount to be retired in the operation. Specifying the issues will maximize the efficiency of the auctions, with the dealer community knowing which issues to add to inventory. In order to avoid major price volatility of specific issues stemming from the announcements of their buy-back, the Treasury should time the **reverse auction** close to an **auction** supplying securities of a similar maturity. Announcing an approximate total amount to be retired rather than specific issue amounts is important to avoid collusion between a group of dealers to buy back an entire issue that is outstanding and offer it to the Treasury at a price that is not reflective of the market.

- 3) The frequency and average size of reverse auctions becomes an important consideration for the well-functioning of the system. Reverse auctions will take place along with the regular auction schedule. In an environment of rising budget surpluses, the amount of debt to be retired could be considerable. Should the Treasury concentrate on buying back small amounts of many issues or larger amounts of fewer issues? For example, we have estimated that the Treasury could conduct reverse auctions of as many as fifteen issues for the single quarter to meet a paydown need of \$75-100 billion, a paydown magnitude that has become typical for the second quarter. We list below an example of a schedule of reverse auctions during a single quarter, in this instance the second quarter of 2001, assuming a redemption need of \$75 billion and the Treasury's tapping of a broad rather than a narrow maturity area. Such a schedule could be very cumbersome to price.

Table: Example of Reverse Auction Schedule

Maturity Sector	Issues to be Redeemed	Coupon	Issue Date	Amount-to-be Redeemed (in billions of dollars)
2 year	February 15, 2003	6.25	2/93	2.0
3 year	May 15, 2004	12.37	4/84	1.0
3 year	May 15, 2004	9.125	5/79	1.0
3 year	May 15, 2004	7.25	5/94	6.0
4 year	May 15, 2005	6.5	5/95	6.0
4 year	August 15, 2005	10.75	7/85	4.0
4 year	August 15, 2005	6.5	11/95	6.0
4 year	November 15, 2005	12.75	11/80	3.0
4 year	November 15, 2005	5.875	11/95	6.0
5 year	May 15, 2006	6.625	5/97	6.0
5 year	August 15, 2006	6.125	8/97	6.0
6 year	May 15, 2007	6.625	5/97	5.0
6 year	August 15, 2007	6.125	8/97	8.0
6 year	November 15, 2007	10.375	11/82	5.0
7 year	August 15, 2008	12.00	8/83	10.0
<b>Total</b>				<b>75.0</b>

Sources: Department of Treasury; DLJ.

- 4) Debt issues with the highest coupon interest are not necessarily the prime candidates for buy backs, unless they happen to fit the two-to five-year maturity tranche discussed above. Issues with coupon interest above say, 9%, tend to be relatively small in size -- with some exceptions. This means that for a given amount of debt to retire, the Treasury would need to conduct several reverse auctions than would be the case if it targeted an issue with a lower coupon interest of which a large amount is outstanding. In addition, the premium of high coupon interest issues -- those of 9% or higher -- tends to be significantly higher than that of issues of lower coupon interest but of same maturity. This may be a significant issue in the budget scoring of debt buy-backs. As of the moment, the premia would have to be counted as budget outlays, thereby reducing the surplus.