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Updated

A "FREE LUNCH" IN THE US TREASURY MARKET?

An interesting phenomenon has been observed in the US Treasury market on the last trading day of the month that seems to result in a virtually literal "free lunch". As the table below shows, the price of the five-year note almost always appreciates during the afternoon of the last day of the month. In only 4 of the last 27 months did the price decline (in November 1995, August 1996, December 1996 and March 1997) and even then the declines were rather minimal. I haven't run numbers for other maturities, but I've been told that the pattern has held across the curve for many years[1].

Five-Year Note Free Lunch			
	Afternoon Price Change in 32nds		
Last business day of:	1995	1996	1997
January	+7.0	+1.5	+1.0
February	+14.0	+8.0	+2.0
March	+1.5	+3.0	-1.3
April	+4.5	0.0	
May	+3.5	+2.5	
June	+6.0	+0.5	
July	+2.5	+1.0	
August	+3.5	-1.0	
September	+2.1	0.0	
October	0.0	+1.5	
November	-0.5	+0.5	
December	+2.0	-0.3	

The basis for this trade is apparently end-of-month duration rebalancing by "index funds" and "closet" index funds[2]. Index funds are mutual funds composed of securities that track a major market index, such as one of the Lehman Brothers Treasury indices. Investors in such funds often believe that attempts to beat market averages are futile, and by so investing they will at least be on par with general market trends. As support for this approach, such investors point to the conclusions of modern portfolio theory; that a "market" portfolio provides the highest level of return per unit of risk in an efficient market. Also, a more mundane motivation for the indexation approach is its lower cost - lower mutual fund fees, and reduced transactions and intellectual costs. I'm not really sure what kind of total size we're talking about here, but if "closet" indexers are included in the tally, it could be quite large.

The purpose of the rebalancing trade is to bring the portfolio's duration back into line with the index being tracked. One would expect a typical portfolio's duration to drift down almost a full month over the month, and when interest rates are trending downwards Treasury portfolio duration extensions are often used to offset the contraction of mortgage-backed security portfolios. Although some funds rebalance more dynamically throughout the month, I have focussed on the end-of-month afternoon trade, because that apparently is when most index funds mechanically do it. Also, I didn't check the morning data for "front-running" because that trade could run into more "noise". For example, the often critical Chicago purchasing managers' index is usually released at 10:00 am on the last day of the month.

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1 My main source on the ideas discussed here was David Winchester (Lehman Brothers New York), although all of the data are from my own trading blotters. All of the price changes are based off "inside" bids from GOVPX and Cantor.

2 Closet indexers are fund managers whose portfolio, by accident or design, is constructed to resemble some market index, but the fund manager does not state that an indexing policy is being followed.

Anyways, I thought this trade was worth pointing out, given the way it seems to fly in the face of many of our preconceived notions about market efficiency. Also, from a tactical perspective, it tells us that end-of-month EFA purchases should be executed earlier rather than later in the afternoon, whereas sales should be made later.