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U.S. Market Commentary

Treasury Floats a Noteworthy Idea

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Treasury Floats a Noteworthy Idea

The new Treasury FRNs are attractive not only for money market funds and institutions that roll T-bills within large liquidity or collateral pools, but also for other institutional investors intent on reducing interest rate risk within their fixed income allocation.

On January 29, 2014, more than three years of consultation and careful planning will culminate in the Treasury Department's inaugural auction of two-year floating rate notes (FRNs). This is the first new Treasury instrument to be brought to market since Treasury Inflation-Protected Securities (TIPS) were introduced in January 1997. The first auction, which will be for \$15 billion of FRNs maturing January 31, 2016, occurs as the Federal Reserve begins to taper its quantitative easing program and as inflation continues to run at a low annualized rate of 1.5%.

The Treasury expects FRNs to (i) reduce the risk inherent in constantly rolling over its T-bill portfolio, (ii) extend the maturity of its overall debt portfolio in a more cost-effective manner than by issuing longer fixed rate debt, and (iii) broaden its investor base.

But there are two sides to every coin. In the current low-interest rate environment, issuing FRNs rather than extending maturities (as many corporations have done) will increase the Treasury's interest rate risk. Second, assuming T-bill and perhaps note issuance are reduced to make room for FRNs, liquidity of bills and notes may be reduced at the margin.¹ And finally, given that the FRNs will be indexed to the 91-day T-bill, the FRN program won't diversify the Treasury's funding cost.

Investors, meanwhile, will benefit from higher yields as interest rates rise, while assuming less price risk than with TIPS or other fixed rate

securities. In addition, investors that constantly roll portfolios of T-bills (such as foreign central banks) will no longer need to do so, *and* they're expected to get a yield pick-up of 10 basis points (bps) to 15 bps over 91-day T-bills.² Finally, the Treasury's entrance into the floating rate note market will provide some welcome diversification in a market dominated by corporations and financial institutions, in particular. At the same time, we expect it will take time both for the market to gain experience with this new instrument (as was the case for TIPS) and for enough notes to be issued to create truly liquid markets for all participants.

In this report, we will briefly discuss how Treasury FRNs were created, their key terms, how they fit into the broader floating rate note market, how and where they might fit into investors' portfolios, and relevant benchmarks and investment vehicles. We conclude that this new instrument will be attractive not only for money market funds and institutions that roll T-bills within large liquidity or collateral pools, but also for other institutional investors intent on reducing interest rate risk within their fixed income allocation. However, we don't expect FRNs to be highly correlated to inflation or to provide deflation protection.

¹ Because TIPS issuance is a fraction of bill and note issuance, it's unlikely that the Treasury would reduce the size of TIPS auctions to accommodate FRNs.

² This was the pick-up expected throughout the planning process. During the first day of when-issue trading on January 23, the pick-up appeared to be as tight as 5 bps to 6 bps.

Bringing Treasury FRNs to Market

In this section we provide a short historical background to the pending FRN rollout to give readers a sense of how policy was made, as well as the key issues. Readers who just want to focus on the key provisions of the new rule and on the broader floating rate note market and investment vehicles can skip ahead to page 7.

FRNs owe their creation to the joint efforts of the Treasury Department and the Securities Industry and Financial Markets Association's (SIFMA) Treasury Borrowing Advisory Committee ("TBAC," or "the Committee"). The TBAC is an advisory committee governed by federal statute whose 15 members are drawn from both the primary dealer community and large fixed income asset managers. The Committee meets with representatives of the Treasury on a quarterly basis to discuss the economy and markets and to provide feedback on the Treasury's borrowing plans and other technical debt management issues.

Although the TBAC discussed FRNs as one possible option for debt management at least as far back as February 2003, explorations began in earnest three years ago. Prior to the TBAC's February 2011 meeting, the Treasury issued a "charge," stating:

Treasury continually seeks ways to minimize borrowing costs, better manage its liability profile, enhance market liquidity, and expand the investor base in Treasury securities. In light of these objectives, we would like the Committee to comment on the potential costs and benefits of new Treasury products that might assist Treasury in achieving some or all of these objectives. In addition, are there any other debt management tools that Treasury should consider? In answering the question, please review the practices and

products employed by debt management authorities around the world.³

In response, the TBAC identified *demand tailwinds* thanks to (i) an expected increase in the demand for high-quality assets as a result of recent reforms relating to pensions and money market mutual funds (MMFs); (ii) certain provisions of the Dodd-Frank legislation; and (iii) the liquidity coverage ratio being phased in under Basel III. The TBAC also identified *supply headwinds* relating to high-quality assets given (i) a decline in issuance by government sponsored enterprises following the financial crisis; (ii) the run-off of government guaranteed bank debt issued under the Temporary Liquidity Guarantee Program; (iii) recent dislocations in the municipal bond market; and (iv) the contraction of the commercial paper market. The Committee member presenting to the Treasury on behalf of the TBAC also observed that foreign ownership of Treasury securities was significant and concentrated among a few countries, and encouraged the group to consider strategies to increase domestic investment, with the caveat that implementation should aim to add to overall demand for Treasury securities and not cannibalize existing products. The Committee member recommended that the Treasury target banks, pension funds, and retail investors as sources of incremental demand. In its follow-up report to the Secretary of the Treasury, the TBAC suggested floating rate securities as one potential way of expanding the investor base

³ Treasury Borrowing Advisory Committee Meeting Minutes, Committee Charge, February 1, 2011. This document and all other Treasury documents cited in this section can be found at www.treasury.gov. The Treasury's objectives stated in this charge continued to guide the product development discussions throughout the process, with the TBAC giving particular focus to extending the duration of Treasury's debt portfolio.

and financing the government at the lowest cost over time.⁴

Development of FRNs was discussed again at the fall 2011 quarterly meeting, with the Committee noting in its follow-up Report to the Secretary of the Treasury that “while the members were generally supportive [of adding FRNs to Treasury’s financing program] there were questions regarding the appropriate reference index, optimal maturities, and liquidity costs.”⁵ The Treasury responded by asking the TBAC at its next quarterly meeting to comment “on the viability of such a product, along with the optimal maturity, reference index, reset frequency, payment period, and distribution mechanism ... [and to] make a specific recommendation for the structure of a Treasury FRN and determine whether such a security would be additive to the Treasury’s current mix of products.”⁶

At its January 31, 2012, meeting, the Committee unanimously supported the issuance of FRNs. Some details of the TBAC’s discussion during that meeting are helpful in understanding the broader program. The presenting member of the Committee reviewed the decline in the volume of high-quality assets over the last five years and the expectation that forthcoming regulatory changes could produce incremental demand for Treasuries. The presenter identified reduced rollover risk and an ability to extend the average maturity of the government’s funding without incurring the interest rate risk premium associated with term financing

as favorable attributes from the government’s perspective, and money market funds, securities lenders, GSEs, corporations, and state and local governments as potential buyers.⁷ This member also reported that while most of the universe of corporate- and GSE-issued floating rate notes is based on Libor or the federal funds effective rate, these reference rates wouldn’t be optimal in the case of FRNs: Libor would be disadvantageous because it would subject the Treasury’s financing costs to bank funding risks, while the federal funds effective rate can be distorted by the rate of interest paid on excess reserves. After analyzing the structural characteristics of outstanding corporate and Agency floaters, the presenter concluded by suggesting that the Treasury initially focus on issuing FRNs with a two-year maturity, daily index resets, and a zero coupon floor.⁸

In March 2012, the Treasury issued a Request for Information,⁹ pursuant to which it received 14 comment letters.¹⁰ The Treasury reported the

⁷ The Committee noted that the extent of the benefit would depend on which instruments currently in Treasury’s arsenal would be supplanted by FRNs.

⁸ Treasury Borrowing Advisory Committee Discussion Charts, 1Q2012. Minutes of the Meeting of the Treasury Borrowing Advisory Committee, January 31, 2012. Report to the Secretary of the Treasury, January 31, 2012. The suggestion of a zero coupon floor on FRNs might be seen to be at odds with the Committee’s unanimous recommendation earlier in the meeting that Treasury allow for the possibility of negative yield auction results “as soon as logistically practical.” In late December 2011, four-week bill auctions experienced elevated bid-to-cover ratios because the auctions were stopped out at zero. The presenting member finessed this by suggesting that individual auctions could result in negative floating index rates as long as the final coupon payment is not less than zero.

⁹ *Federal Register* 77, No. 53 (March 19, 2012): 16116.

¹⁰ The respondents were eight banks or securities dealers, two large investment management firms, one consulting firm that advises corporate treasurers, and three individuals who provided online responses.

⁴ Other strategies discussed included issuing “ultra-long” Treasury bonds (40 to 100 years), introducing call features, and issuing GDP-linked bonds. The Treasury hasn’t moved forward with any of these strategies.

⁵ Report to the Secretary of the Treasury from the Treasury Borrowing Advisory Committee, November 1, 2011.

⁶ Minutes of the Meeting of the Treasury Borrowing Advisory Committee, January 31, 2012.

results at the May 1, 2012, TBAC meeting—there was consensus in favor of FRNs and for an initial maturity of two years, but no consensus on the reference index. The Treasury also reported that systems limitations would prevent issuance of FRNs until 2013. A poll of the TBAC members showed a similar lack of consensus regarding the reference index: four participants supported using T-bills, three favored the Treasury general collateral rate, and six backed the federal funds effective rate. Despite this disagreement, the Committee again unanimously recommended adoption of an FRN program.

The next major development was the Treasury's publication of an Advance Notice of Proposed Rulemaking in early December 2012. The Notice addressed the index issue first: "No consensus exists among market participants on the ideal index for the Treasury's floating rate securities program. Many believe, however, that the index rate should reference a liquid, traded rate with transparent pricing." In addition to soliciting comments on the index rate, the Treasury sought feedback on a number of other structural elements too numerous to review here in detail, but including reset frequency, frequency of interest payments, lock-out periods, minimum interest rate, minimum spread, interest accrual, auction frequency and settlement, re-openings, stripping, and taxation. The Treasury received 16 comment letters, and once again the greatest diversity of viewpoints concerned the index rate.¹¹ Fifteen of the letters addressed this issue, with nine respondents favoring one or another form of repo rate while

¹¹ *Federal Register* 77, No. 234 (December 5, 2012): 72278. Comment letters were received from nine banks and securities dealers, one investment management company, one clearing corporation, one derivatives exchange, one trade group, one risk and portfolio management firm, and two individuals.

the other six supported using the 13-week T-bill.

By the end of April 2013, the Treasury had decided to use the 13-week T-bill as the index. The TBAC supported this decision unanimously at its April 30 meeting despite being split only a few months earlier. The Committee's report to the Secretary of the Treasury indicates that this was at least in part a default position: "Although this choice of index doesn't diversify the Treasury's funding cost, the uncertainty around the other indices makes the 13-week T-bill the best choice at this time."¹² The Treasury indicated during this meeting its willingness to consider other indices and longer maturities in the future and projected \$10 billion to \$15 billion in monthly issuance, reducing T-bill issuance to some degree, beginning either in fourth quarter 2013 or first quarter 2014.

On July 30, the Treasury reviewed the final term sheet with TBAC and once again discussed the plan to reduce T-bill issuance to accommodate the new FRN. The following day, the Treasury published the final rule in the *Federal Register*.¹³ During the November 5, 2013, TBAC meeting (at which market conditions in the wake of the government shutdown, the debt ceiling, and budget negotiations were discussed), the Committee affirmed its recommendation to proceed with the inaugural issue of FRNs at the end of January 2014. TBAC recommended an initial auction of approximately \$10 billion to \$15 billion, followed by

¹² Treasury Borrowing Advisory Committee Report to the Secretary, April 30, 2013.

¹³ *Federal Register* 78, No. 147 (July 31, 2013): 46426. The rule, as amended by 78 FR 50335 August 19, 2013, 78 FR 52857 August 27, 2013 and 78 FR 59228 September 26, 2013, amends 31 CFR Part 356, which establishes the policies and procedures for the sale and issuance of Treasury bills, notes, and bonds.

two re-openings of \$10 billion each at the end of February and March.¹⁴

Several broad themes run throughout the record of these discussions: (i) the Treasury wanted to be sure the structure would maximize the demand for this new instrument; (ii) TBAC consistently emphasized the benefit of extending the average life of the Treasury's debt portfolio, even modestly; and (iii) the

¹⁴ On January 23, 2014, the Treasury announced an initial auction size of \$15 billion.

Treasury's concurrent focus on liquidity is evident from both the discussions about the FRN structure and the frequency of references to the TIPS market. This played out visibly in the selection of the 91-day T-bill as the reference rate despite many market participants having urged Treasury to adopt a different standard. In the end, the Treasury settled on the T-bill, citing the benefits of indexing to an established, well understood, transparent, and highly liquid market rate.

Summary of Selected Terms

We provide excerpts below of some key sections of the final rule or the summary thereof published in *Federal Register* 78, No. 147 (July 31, 2013), amendment to 31 CFR Part 356 "Sale and Issue of Marketable Book-Entry Treasury Bills, Notes, and Bonds." The excerpted material is taken directly from the *Federal Register*, but we have deleted footnotes and added headings and underlined certain text. The Appendix contains a term sheet.

Auctions. Auctions of Treasury floating rate notes will generally be conducted in the same manner as other marketable Treasury securities auctions. The auctions will be conducted as single-price auctions in which competitive bidders will bid in terms of a desired discount margin (positive, negative, or zero), expressed as a percentage with three decimals, e.g., 1.230 percent. The spread on the first issuance of a particular floating rate note will be set at the highest accepted discount margin in that auction. Auctions will include both competitive and noncompetitive bidding, a minimum purchase amount of \$100, a maximum noncompetitive bid amount of \$5 million, and a 35-percent maximum award limitation. The award methodology will be the same as for other Treasury marketable securities auctions.

Reopening auctions will be conducted in the same manner as new issuances, except that the spread on a floating rate note offered in a reopening auction will be the spread determined in the first auction of that security. Bidders in reopening auctions will bid on a discount margin basis and those who are awarded

securities will be required to pay accrued interest from the dated date, or last interest payment date, to the reopening issue date.

Competitive Bid. A bid to purchase a stated par amount of securities at a specified yield, discount rate, or discount margin.

Discount Margin. The margin over the index that equates the present values of the assumed cash flows on a floating rate note to the sum of the price of and accrued interest on the floating rate note. The assumed cash flows are calculated based upon the index rate applicable to the dated date. Bidders in floating rate note auctions bid on the basis of discount margin. (See the Appendix.)

Index. The index for floating rate notes will be the weekly High Rate (stop out rate) of 13-week Treasury bill auctions. *[Author's Note: This might better be referred to as a "reference rate" to differentiate it from other indices that aggregate price or return data for multiple securities.]*

Index Rate. The index rate is computed from the most recent 13-week Treasury bill auction High Rate that has been translated into a simple-interest money market yield computed on an actual/360 basis and rounded to nine decimal places. If, however, the most recent 13-week bill auction occurred during a lockout period for the applicable floating rate note, then the index rate is computed from the most recent 13-week bill auction that occurred prior to the lockout period. *[Author's Note: The Index Rate for the first FRN auction was determined in the T-bill auction on Monday, January 27.]*

Although the index rate will reset daily, given the current 13-week Treasury bill auction schedule, the rate will effectively change once a week. The index rate will change on the day following a 13-week bill auction regardless of whether that day is a business day or a non-business day.

Interest Rate. The interest rate will be the spread plus the index rate, which will reset daily, based on the most recent auction of 13-week bills and will be subject to a minimum daily interest accrual rate of zero percent. After analyzing the comments received, the Treasury determined that a minimum spread was unnecessary. The use of a zero-percent minimum daily interest accrual rate will prevent floating rate note investors from having to remit an interest payment to Treasury during unusual interest rate environments, including those with expectations for deeply negative interest rates.

Interest on floating rate notes will accrue daily throughout the interest payment period. In general, the interest accrual for a particular calendar day in an accrual period will be the spread determined at the time of a new floating rate note auction plus the index rate.

Lockout Period. The Treasury will provide notice of interest payments two business days prior to each interest payment date. For purposes of calculating auction settlement amounts and quarterly interest payments, floating rate notes will initially have a two-business-day lockout period prior to their auction settlement date or an interest payment date. Therefore, a 13-week Treasury bill auction that takes place during the lockout period will be excluded from the calculation of accrued interest for purposes of determining that settlement amount or interest payment. Any changes in the index rate that would otherwise have occurred during the lockout period will occur on the first calendar day following the end of the lockout period. The Treasury will provide sufficient notice if they change the length of the lockout period for future floating rate note issuances.

Maturities and Interest Payments. Floating rate notes will be issued with maturities of at least one year, but not more than ten years. Floating rate notes may be sold at discount, par, or premium, and will pay interest quarterly on the last calendar day of the month.

Multiple-Price Auction. An auction in which each successful competitive bidder pays the price equivalent to the yield, discount rate, or discount margin that it bid.

Noncompetitive Bid. For a single-price auction, a bid to purchase a stated par amount of securities at the highest yield, discount rate, or discount margin awarded to competitive bidders. For a multiple price auction, a noncompetitive bid means a bid to purchase securities at the weighted average yield, discount rate, or discount margin of awards to competitive bidders.

Settlement. Although most commenters preferred mid-month settlement, the issue date for newly issued Treasury floating rate notes will normally be on the last calendar day of a month because this timing better accommodates the Treasury's financing needs. Reopening issuances of floating rate notes will occur on the last Friday of a month. In both cases, if the regular issue day is a non-business day, issuance [i.e., settlement] will occur on the next business day. The auction announcement for each floating rate note will contain the specific details of that offering.

Single-Price Auction. An auction in which all successful bidders pay the same price regardless of the yields, discount rates, or discount margins they each bid.

Spread. The fixed amount over the life of a floating rate note that is added to the index rate in order to determine the interest rate of the floating rate note. The spread will be determined in the auction of a new floating rate note and is expressed in tenths of a basis point (i.e., to three decimals). Additionally, the spread will be equal to the high discount margin at the time a new floating rate note is auctioned.

Stripping and Use as Collateral. Floating rate notes will *not* be eligible for stripping. The notes will be eligible, however, to serve as collateral for Treasury's Fiscal Service collateral programs. *[Author's Note: These programs include the repo program offered by the Treasury Department's Bureau of the Fiscal Service.]*

Treasury FRNs and the Broader Floating Rate Note Market

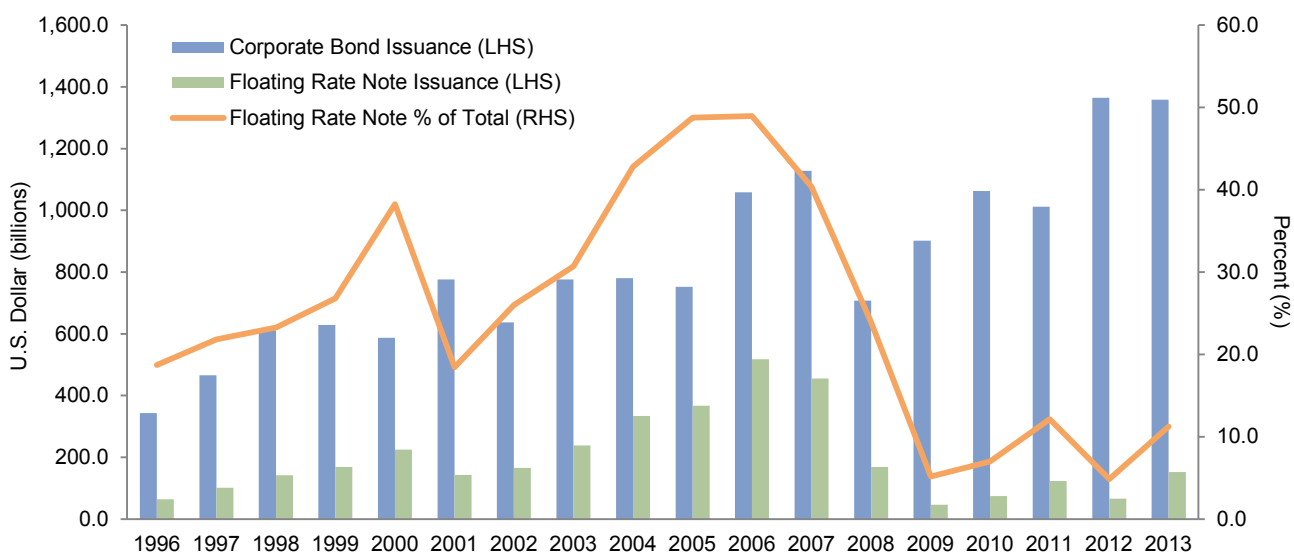
How Treasury FRNs Will Fit In

The Treasury will become the latest issuer in a well-established market for floating rate notes, new issuance of which grew eight-fold to \$518.2 billion between 1996 and 2006, before dropping precipitously to \$46.6 billion in 2009 (Figure 1). At its peak in 2006, floating rate note issuance represented almost half of all U.S. corporate bond issuance. However, the historically low interest rates that have characterized the post-financial crisis period since 2008, as well as fears about associated rate increases once QE is tapered or ended, have led corporate treasurers to eschew floating rate debt in favor of locking in low, long-term fixed rates. In 2013, U.S. corporations issued \$152.7 billion of floating rate debt, which represented less

than 12% of total corporate bond issuance. The Treasury plans to issue almost this much—\$140 billion—in FRNs in 2014 (Figure 2). The Treasury may therefore benefit from rolling out FRNs at a time when it doesn't have to compete with a large volume from the corporate sector.

In developing the FRN, market participants and the Treasury felt it was important to assure investors that the daily interest accrual rate would never go below zero, effectively establishing a floor. Critics of floating rate notes with floors point out that if interest rates fall below the floor and then turn back up, investors won't achieve the interest rate protection they sought from the instrument until the sum of the index (reference rate) and the spread exceeds the floor. However, with the floor at zero, we don't expect this will be an issue for investors in most market environments.

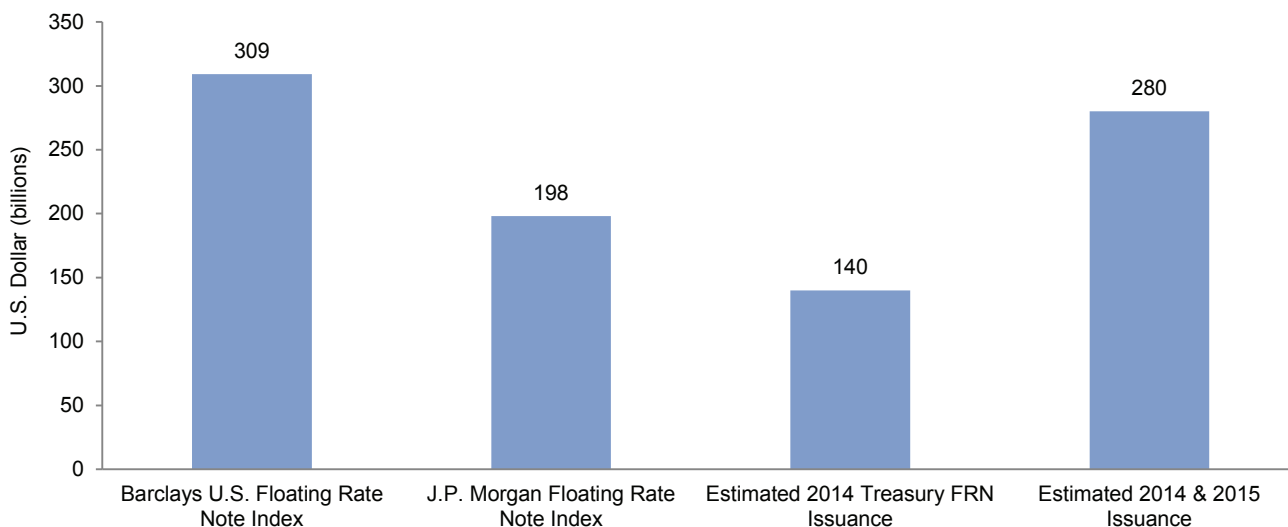
Figure 1. Annual U.S. Issuance of Floating Rate Notes
1996–2013



Source: Securities Industry and Financial Markets Association (SIFMA).
Note: Floating rate note total includes callable and non-callable bonds.

Figure 2. Projected Treasury FRN Issuance Relative to Outstanding Investable U.S. Market

As of December 31, 2013



Sources: Barclays, J.P. Morgan Securities, Inc., and U.S. Department of the Treasury.

Note: Treasury FRN issuance amount estimated from the Office of Debt Management's Fiscal Year Q4 2013 report.

The simplicity of Treasury FRNs should also prove to be another attractive feature for investors. The Treasury wants both institutional and retail investor involvement so as to achieve the greatest distribution and liquidity. Among market participants, there's a sense that TIPS haven't been as liquid as desired, and a belief that their complexity accounts for the lack of significant penetration in the retail market. In overriding the many professional investors and dealers that preferred something other than the 91-day T-bill reference rate, the Treasury signaled that it wants retail investors to understand and actively participate in the FRN program. By following the primary auction in the first month of each quarter with two monthly re-openings consolidated under the same CUSIP—the same strategy it currently uses for ten-year notes, 30-year bonds, and five- and ten-year TIPS—the Treasury hopes to

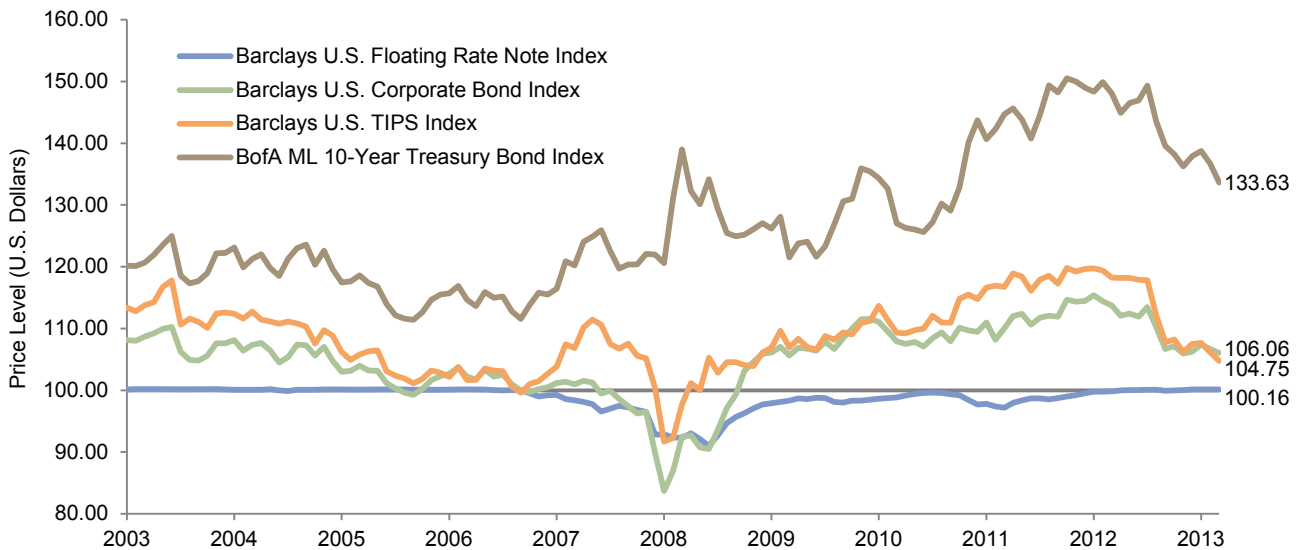
increase the volume of each note and create as much liquidity as possible.¹⁵

The short duration of two-year FRNs suggests that they will be attractive to investors, including corporations looking for quality investments with very low volatility. We certainly expect the volatility of these FRNs to be much lower than that of fixed coupon notes of comparable maturity. However, it's worth remembering that in the depths of the 2008–09 market meltdown, the price of corporate floating rate notes, as represented by the Barclays U.S. Floating Rate Note Index, dropped about 9% due to credit and liquidity concerns (Figure 3). Moreover, the volatility has been highly asymmetrical, as the average price of the Barclays U.S. Floating Rate Note Index has never risen above \$100.21 since inception.

¹⁵ The CUSIP for the notes auctioned in January, February, and March 2014, which are expected to total approximately \$35 billion, will be 912828WK2.

Figure 3. Price Levels for Various Barclays Indices

October 31, 2003 – December 31, 2013



Sources: BofA Merrill Lynch and Barclays.

Note: Data are monthly.

While the Treasury FRN won't be subject to the same credit and liquidity concerns as other floating rate notes—and thus should be expected to hold up better under adverse credit and liquidity conditions—investors should recall that TIPS liquidity (and TIPS prices) fell sharply in 2008.

Money Market Funds and Liquidity Portfolios

It's clear that the Treasury purposely structured this new note to appeal to MMFs and other short-term investors seeking high-quality assets. Two-year FRNs will have maturities short enough to make them eligible for purchase by Rule 2a-7 MMFs, yet long enough to provide some operational economies for central banks and corporate treasurers whose liquidity portfolios own and continually roll large volumes of T-bills. Subject to the Rule 2a-7 provisions discussed below, the

two-year FRNs will be particularly attractive to Treasury-only MMFs that cannot invest in repurchase agreements. These funds have been restricted to the purchase of short-term T-bills and Treasury notes and bonds nearing maturity. FRNs offer such funds an opportunity to pick up as much as 10 bps to 15 bps of spread over T-bills—particularly useful in today's low-rate environment—although perhaps with some sacrifice in liquidity until investors and dealers get fully comfortable with this new instrument.¹⁶ FRNs also provide an additional investment opportunity both for Treasury MMFs that can invest in repurchase agreements collateralized by Treasury securities, and for government and prime MMFs.

In considering potential demand from Rule 2a-7 MMFs for Treasury FRNs, investors need

¹⁶ TIPS liquidity was lower than expected for many years and remains far below that of nominal Treasuries.

to understand two calculations under the Rule. The first is that the fund's dollar-weighted average portfolio maturity (DWAM) may not exceed 60 days. The DWAM calculation is based on the frequency of the interest rate adjustment. For example, if an MMF reallocates 10% of its portfolio from cash to a weekly reset instrument, this will add only 0.7 days ($10\% \times 7$ days) to its DWAM as of the purchase date. Accordingly, unless an MMF's allocation to FRNs is very high or the reset period is lengthened, the DWAM provision shouldn't present an issue. If at a future date the Treasury elects to take advantage of its flexibility to adopt a reference index with less frequent adjustments, the new FRNs would have less appeal to the MMF community, assuming Rule 2a-7 still applies.

The second calculation presents more of a potential purchase constraint for MMFs. Rule 2a-7 limits the dollar-weighted average portfolio life (DWAL) to a maximum of 120 days. The DWAL calculation is based on the time remaining until repayment of principal, initially two years. Therefore, reallocating the same 10% from cash to the two-year FRN will add 73 days to the MMF's DWAL ($10\% \times 365 \times 2$) at the purchase date. It thus seems that MMFs may not be able to make significant allocations to the two-year FRN, and any extension of the maturity in future auctions will have a distinctly adverse impact on MMF demand.

Although a number of securities lenders have adopted Rule 2a-7 to govern investments in their collateral pools since the liquidity crisis in 2008, when some of them suffered from a severe asset-liability mismatch, the Treasury nevertheless expects that they will be interested in holding the new FRNs in the high-quality part of their portfolios. Participation by these collateral pools may depend on the yield

differential between FRNs and other available instruments.

Foreign holdings of Treasury securities accounted for about 49% of all marketable Treasury debt at the end of November 2013. Such holders include foreign central banks that we noted earlier are large holders of Treasury securities. Figure 4 illustrates that China and Japan account for about 23% and 21%, respectively, of marketable, foreign-held Treasury debt. FRNs will provide foreign central bank liquidity pools the convenience of not having to roll their bill portfolios constantly, and may also provide an opportunity for a slight yield pick-up.

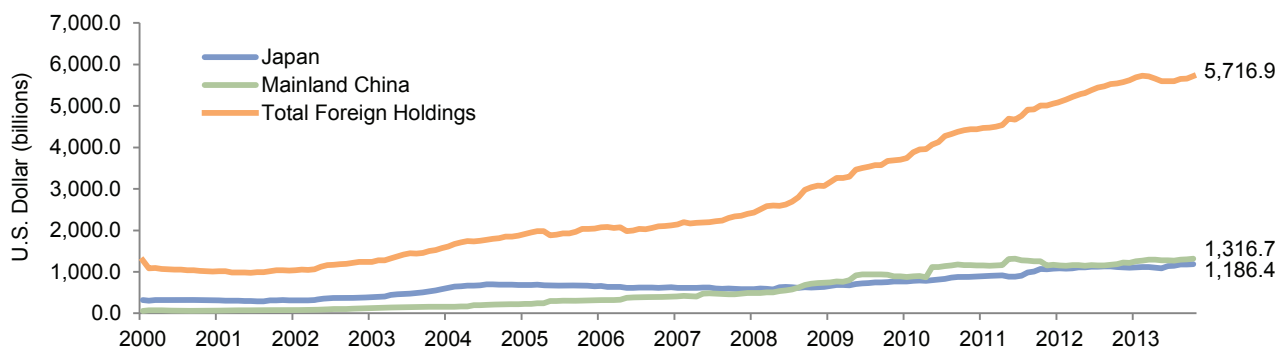
Institutional Investors

For managers of MMFs or liquidity portfolios focused on high-quality assets, the case for Treasury FRNs is reasonably straightforward. But how should endowment or pension fund managers think about them? Are they cash or are they bonds? If the latter, do they have any useful hedging characteristics? And what other benefits might they offer?

Certainly, the reference rate and re-pricing frequency of FRNs give the illusion of cash, perhaps even cash-plus given the spread over T-bills expected by those involved in the creation of this new instrument. However, the planned quarterly FRN issuance of \$35 billion pales in comparison with the current weekly volume of one-, three-, and six-month T-bills (\$15 billion, \$28 billion, and \$26 billion, respectively), so FRNs won't be a pure cash substitute even though they should be more liquid than TIPS. Still, the re-pricing frequency will reduce the price volatility, which should argue for cash-like haircuts when FRNs are used as collateral; however, as we saw in Figure 3, that price volatility may be asymmetric.

Figure 4. Foreign Holdings of U.S. Treasury Securities

February 29, 2000 – November 30, 2013



	Percentage of Total U.S. Treasury Securities (%)									
	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Japan	17.5	16.1	14.4	12.9	10.8	10.6	10.0	10.7	10.1	10.1
Mainland China	5.7	7.4	9.2	10.6	12.6	12.3	13.1	11.6	11.1	11.2
Total Foreign Holdings	46.9	48.8	48.7	52.1	53.3	50.8	50.2	50.5	50.5	48.6

	Percentage of Total Foreign-Held Treasury Securities (%)									
	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Japan	37.3	32.9	29.6	24.7	20.3	20.8	19.9	21.1	19.9	20.8
Mainland China	12.1	15.2	18.9	20.3	23.6	24.3	26.2	23.0	21.9	23.0

Sources: Thomson Reuters Datastream and U.S. Department of the Treasury.

Notes: Estimated foreign holdings of U.S. Treasury marketable bills, bonds, and notes reported under the Treasury International Capital reporting system are based on annual Surveys of Foreign Holdings of U.S. Securities and on monthly data. Data for 2013 are year-to-date through November 30.

700m modified

If viewed as bonds, could FRNs play a useful inflation- or deflation-hedging role akin to that of other bonds? The link to 91-day T-bills certainly suggests a potential inflation hedging role. As Figure 5 shows, there’s a positive long-term correlation between the return on 91-day T-bills and inflation, although at 0.47 it’s lower than we might have thought. Figure 6 illustrates that although over the past four decades T-bills have had a beta to inflation of 0.7, their R² is higher than any of the other assets that are commonly used as inflation hedges. We would expect the R² of T-bills to inflation to be less

than that of TIPS (as it has been since TIPS were introduced in 1997).¹⁷

FRNs won’t be the first Treasury instrument sporting a variable interest rate. TIPS provide investors semi-annual interest payments based on the fixed coupon rate multiplied by the inflation-indexed principal amount of the bond. Upon maturity, investors receive the greater of the original principal amount of the bond or the inflation-adjusted principal.

¹⁷ In the short term, relationships can differ from what’s expected over the long term, as the TIPS R² to inflation was less than that of both commodities and oil & gas.

Figure 5. Correlation Matrix: Commodity Indices, Capital Market Indices, Inflation, and Commodities
First Quarter 1973 – Fourth Quarter 2013

	S&P 500	Barclays Govt/Credit	91-Day T-Bill	U.S. CPI-U	S&P GSCI™	S&P Energy	Oil	Gas	Gold
S&P 500	1.00								
Barclays Govt/Credit	0.18	1.00							
91-Day T-Bill	-0.01	0.23	1.00						
U.S. CPI-U	-0.08	-0.23	0.47	1.00					
S&P GSCI™	-0.06	-0.16	0.05	0.38	1.00				
S&P Energy	0.66	0.02	-0.03	0.13	0.35	1.00			
Oil	-0.11	-0.21	0.01	0.37	0.65	0.29	1.00		
Gas	0.01	0.06	0.01	0.04	0.24	0.19	0.11	1.00	
Gold	-0.07	0.06	0.01	0.22	0.20	0.08	0.34	0.06	1.00

Sources: BofA Merrill Lynch, Barclays, Federal Reserve, Oil & Gas Journal Energy Database, Standard & Poor's, Standard & Poor's Compustat, Thomson Reuters Datastream, U.S. Department of Labor - Bureau of Labor Statistics, and *The Wall Street Journal*.

Notes: The 91-day T-bill represents returns calculated using yield data from the Federal Reserve from 1970 to 1977 and the BofA Merrill Lynch 91-Day Treasury Bill Index from 1978 to present. The oil price is represented by the posted price for West Texas Intermediate for the period 1965 to 1982 and the closing price for West Texas Intermediate for the period 1983 to the present. The gas price is represented by the yearly average for the wellhead price of natural gas for the period 1964 to 1973, the year-to-date average for wellhead price of natural gas for the period 1974 to 1985, the year-to-date spot price for natural gas for the period 1986 to October 1993, and the year-to-date Natural Gas, Henry Hub Index for the period November 1993 to the present.

480q modified

However, TIPS and FRNs have other distinctly different characteristics beyond the differences in their interest payment schedules. Whereas TIPS offer *direct* inflation protection because coupon payments are tied directly to changes in CPI-U, FRNs provide only the *indirect* protection afforded by the correlation between short-term interest rates and inflation. In addition, while TIPS are adjusted with a three-month lag (i.e., the rate is derived from the observed inflation rate three months prior to payment), FRNs will adjust daily by their terms, although the index resets weekly because it's pegged to the most recent auction of 91-day T-bills. So in a rapidly rising inflationary environment, FRNs would be expected to adjust *before* the actual observed inflation flows through CPI-U and is captured in TIPS payments. In short, the principal attribute of Treasury FRNs compared with TIPS is protection against rising *short-term* interest rates, not

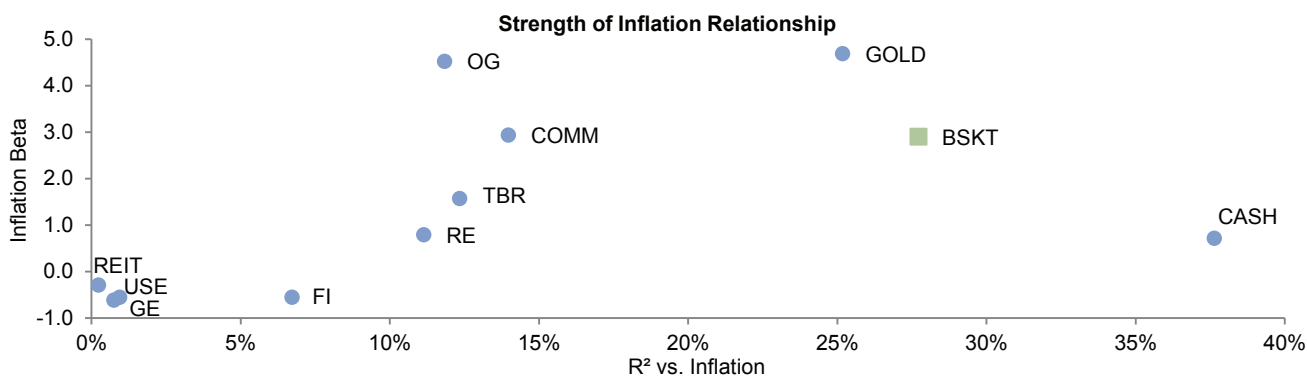
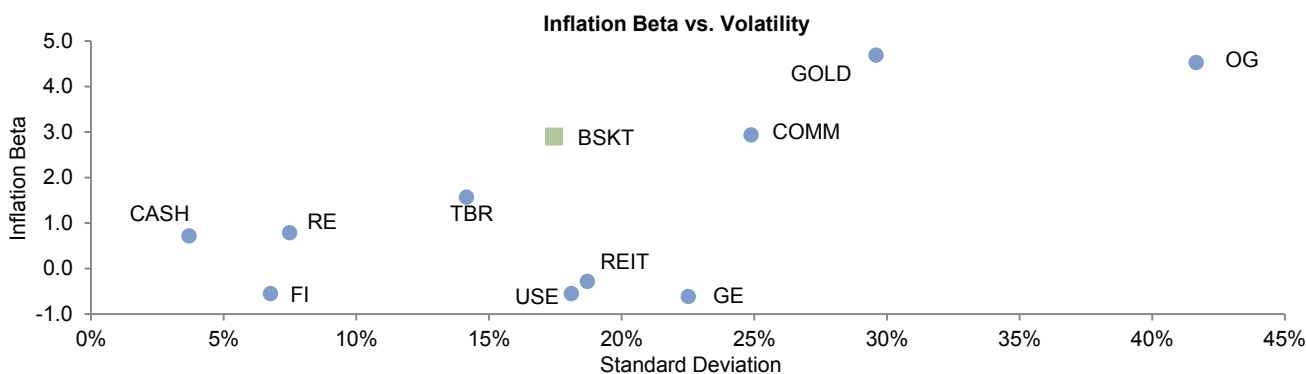
protection against either inflation (or unanticipated inflation) or increases in long-term interest rates.

FRNs of any duration are less likely to offer effective deflation protection. To be an effective deflation hedge, a security must appreciate when the economy contracts and interest rates decline. However, in contrast to the behavior of fixed rate, high-quality bonds (particularly long-term sovereigns), the price of an FRN is effectively "capped" when interest rates decline because the coupon adjusts down and re-prices the note close to par—each week, in this case. So even though the FRN will have a stated maturity of two years, it will have an effective duration much closer to its interest reset frequency. The effective duration of the Barclays U.S. Floating Rate Note Index is currently 0.12 years as opposed to the 1.93 year duration of the two-year BofA Merrill Lynch U.S. Treasury

Figure 6. Sensitivity of Asset Class Returns to Inflation

1973–2012

	Symbol	Versus Inflation		St Dev
		Beta	R ²	
Global ex U.S. Equity	GE	-0.6	1%	23%
U.S. Equity	USE	-0.6	1%	18%
U.S. Fixed Income	FI	-0.6	7%	7%
REITs	REIT	-0.3	0%	19%
Cash	CASH	0.7	38%	4%
Real Estate	RE	0.8	11%	7%
Timber	TBR	1.6	12%	14%
Commodities	COMM	2.9	14%	25%
Oil & Gas (Prices)	OG	4.5	12%	42%
Gold (Prices)	GOLD	4.7	25%	30%
Equal Weighted	BSKT	2.9	28%	17%



Sources: BofA Merrill Lynch, Barclays, Goldman, Sachs & Co., Hancock Timber Resources Group, MSCI Inc., National Association of Real Estate Investment Trusts, National Council of Real Estate Investment Fiduciaries, PRISA, Standard & Poor's, Thomson Reuters Datastream, and U.S. Department of Labor - Bureau of Labor Statistics. MSCI data provided "as is" without any express or implied warranties.

Notes: Inflation betas measure asset class sensitivity to inflation where an asset class whose return matches the volatility of inflation is said to have an inflation beta of 1.0. Asset classes with greater or less volatility than inflation have inflation betas greater than 1.0 or less than 1.0, respectively. Cash is represented by the 91-Day Treasury Bill Index, which is calculated using yield data from the Federal Reserve from 1970 to 1977 and the BofA Merrill Lynch 91-Day Treasury Bill Index from 1978 to present. Timberland data for 1973 through 1986 are the John Hancock Timberland Index, 1987 through present are the NCREIF Timberland Index.

525a modified

Index. This largely explains why the highest price of the Barclays U.S. Floating Rate Note Index hasn't exceeded 100.21 since its inception in 2003, as we observed in Figure 3.

Likewise, FRNs aren't useful assets for hedging pension liabilities. To serve as an effective hedging asset, forgetting the market disconnect created by MAP-21,¹⁸ price movements in the fixed income portfolio must match movements in the present value of the liability as interest rates change. With the duration of most pension plans in double digits and with the duration of an FRN well under a year, this clearly isn't a role fit for an FRN.

Although Fed rate increases are likely only if unemployment drops further and inflation rears its head, it's useful to begin thinking now about protection in such an environment. Shortening duration by selling a longer maturity note and buying a Treasury FRN would substantially reduce price risk, and it would have almost the same benefit as reinvesting the coupon at increasingly higher short-term reinvestment rates. We're mindful that shifts and twists of the yield curve render predicting interest rate movements pure folly,¹⁹ and that numerous examples can be found of investors that shortened duration and simultaneously stretched for yield only to be disappointed relative to

¹⁸ MAP-21 refers to legislation passed in July 2012 providing pensions with temporary funding relief by allowing plans to replace low market discount rates with higher rates based on 25-year averages. This has the benefit of lowering the value of their liabilities, improving funded status, and decoupling the volatility of funded status from current market rates, but perhaps as an unintended consequence, bonds can no longer be used effectively to hedge the present value of the liability.

¹⁹ Please see our 2010 report *Fixed Income Investing When Interest Rates Rise*.

staying put.²⁰ But in an environment where medium- and long-term interest rates continue to respond to monetary policy by edging up even as the Fed "tapers" and before it begins to "tighten" explicitly—and before any signs of inflation emerge—FRNs may provide a liquid, low-volatility safe haven.

Indices and Investment Vehicles

Two major fixed income index providers, Barclays and J.P. Morgan, offer indices that track the US\$-denominated floating rate note market. Both require that each securities issue be at least \$300 million to qualify for inclusion in the index. Since Barclays includes securities issued by non-U.S. agencies and local authorities, and supra-nationals in its index, while J.P. Morgan limits its index to U.S. corporates, the former captures a market value of \$302 billion compared to the latter's \$198 billion.²¹ Despite these differences, both indices are overwhelmingly exposed to the financial sector—59% in the case of Barclays and 71% in the case of J.P. Morgan. Van Eck provides a third floating rate note index that is less well known and even more exposed to the financial sector, with an allocation of over 75% (Figure 7).

Communications in recent weeks with all three index providers have revealed that only Barclays plans to introduce a new Treasury FRN index in the near future, and none of the three plans to broaden the universe of its existing indices to include the Treasury FRN.

As for investment vehicles that offer exposure to floating rate notes, investors presently have a choice of three investment-grade floating rate note exchange-traded funds (ETFs), all

²⁰ Please see our May 2012 Market Commentary *What to Do About Higher Rates?*

²¹ Neither index includes floating rate notes issued by U.S. government agencies.

of which were launched in 2011. The largest and most liquid of these is the iShares® Floating Rate Bond (FLOT) that tracks the Barclays U.S. Dollar Floating Rate Note < 5 Years Index, which is composed of notes with remaining maturities longer than one month but shorter than five years. This is one of many sub-indices of the Barclays U.S. Floating Rate Note Index and had \$3.6 billion of invested assets as of December 2013. State Street's SPDR® Barclays Capital Investment Grade Floating Rate ETF (FLRN), launched a few months after FLOT, is also benchmarked to the Barclays U.S. Dollar Floating Rate Note < 5 Years Index but is about one-tenth the size of FLOT at \$355 million. The Market Vectors® Investment Grade Floating Rate ETF (FLTR), which was actually the first to market, languishes in third place in terms of invested assets at about \$100 million (Figure 8). Figure 9 compares the ETFs and shows the dramatic growth in assets experienced by all three of these ETFs in the last year.

The three ETF sponsors are unlikely to add a measureable amount of Treasury FRNs to their portfolios since their benchmark indices won't contain any Treasury FRNs, and the expectation is that investing out of benchmark into such a high-quality, low-yielding asset would only reduce the yield of their ETF portfolios.

We are aware of filings for three new ETFs that have been submitted to the SEC: iShares® Treasury Floating Rate Bond ETF (ticker: not available), SPDR® Floating Rate Treasury ETF (ticker: FLTY), and WisdomTree Floating Rate Treasury Fund (ticker: not available). The iShares and SPDR ETFs will be benchmarked against an independent index provider, whereas WisdomTree will use its own WisdomTree Floating Rate Treasury Index. All three plan to employ a representative sampling index strategy.

The launch dates of these three ETFs were not known at the time of publication.

Taxation

Treasury FRNs will be subject to tax rules issued under section 1275(d) of the IRS Code as amended. Taxable investors should consult their tax advisers to understand the tax implications.

Figure 7. Floating Rate Note Indices

As of December 31, 2013

	Barclays U.S. Dollar Floating Rate Note < 5 Years Index	J.P. Morgan U.S. Floating Rate Note Index	Market Vectors® U.S. Investment Grade Floating Rate Index
Inception Date	8/29/2003	12/30/2003	2/10/2011
Bloomberg Ticker	BFU5TRUU	JPFRIANI	MVFLTR
Index Characteristics			
Number of Holdings	388	266	241
Effective Duration	0.12	0.06	0.10
Sector Allocation (%)			
Financial	58.74	71.00	76.30
Industrial/Other Corporate	22.69	29.00	23.70
Government Related	18.19	0.00	0.00
Utility	0.38	0.00	0.00
Cash/Short-Term/Other	0.00	0.00	0.00
Quality Distribution (%)			
AAA	14.83	1.00	2.75
AA	28.05	34.00	28.80
A	48.71	57.00	56.13
BBB	8.41	7.00	10.37
Not Rated/Below BBB	0.00	1.00	1.94
Country Weightings (%)			
U.S.	48.08	58.00	59.20
Canada	10.29	12.00	10.30
Australia	8.91	9.00	6.60
Netherlands	4.90	3.00	5.50
Germany	4.25	2.00	1.80
Japan	3.76	8.00	4.70
France	3.42	3.00	3.00
Norway	3.22	0.00	1.20
Sweden	2.33	1.00	1.90
United Kingdom	2.19	4.00	2.70
Italy	0.67	0.00	0.00
Brazil	0.61	0.00	1.80
South Korea	0.43	0.00	0.50
Mexico	0.42	0.00	0.70
Spain	0.20	1.00	0.00
Switzerland	0.17	0.00	0.10
Denmark	0.17	0.00	0.00
Belgium	0.17	0.00	0.00
Israel	0.17	0.00	0.00
Chile	0.16	0.00	0.00
Other	5.49	0.00	0.00

Sources: Barclays, J.P. Morgan Securities, Inc., and Van Eck Global.

Notes: Data characteristics pulled between December 31, 2013 and January 24, 2014. Totals may not sum to 100% due to rounding. J.P. Morgan's financial sector allocation consists of the following components: U.S. banks, 22%; yankee banks, 30%; financial services, 17%; insurance, 1%. Market Vectors industrial/other corporate consists of the following components: communications, 6.4%; technology, 3.2%; energy, 6.7%; consumer, non-cyclical, 3.4%; consumer, cyclical, 2.8%; basic materials, 0.7%; industrial, 0.5%. Barclays quality distribution based on Moody's ratings; J.P. Morgan quality distribution based on S&P ratings; Market Vectors ratings based on an evenly weighted blend of Moody's, S&P, Fitch, and DBRS ratings.

Figure 8. Floating Rate Note ETFs

As of December 31, 2013

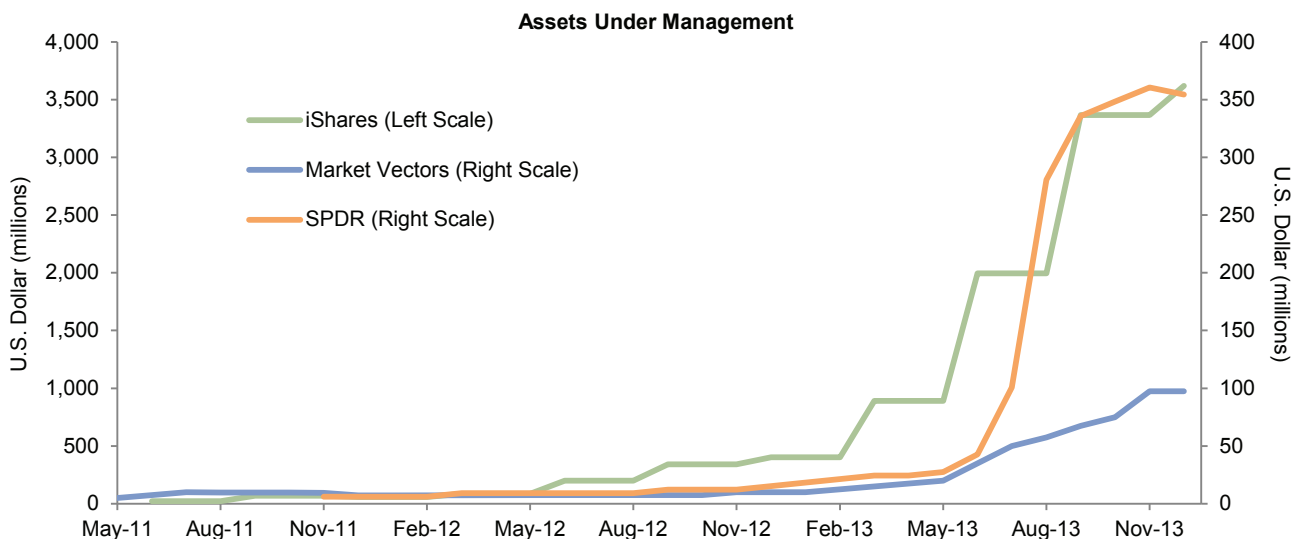
	iShares® Floating Rate Bond ETF	SPDR® Barclays Capital Investment Grade Floating Rate ETF	Market Vectors® Investment Grade Floating Rate ETF
Inception Date	6/14/2011	11/30/2011	4/25/2011
Fund Ticker	FLOT	FLRN	FLTR
Index	Barclays U.S. Dollar Floating Rate Note < 5 Years Index	Barclays U.S. Dollar Floating Rate Note < 5 Years Index	Market Vectors® U.S. Investment Grade Floating Rate Index
ETF Characteristics			
Total Net Assets	\$3.62 billion	\$354.57 million	\$97.5 million
Expense Ratio	0.20%	0.15%	0.19%
Number of Holdings	355	345	163
Effective Duration	0.13	0.12	0.12
30-Day SEC Yield	0.33%	0.38%	0.48%
Sector Allocation (%)			
Financial	61.13	60.10	81.20
Industrial/Other Corporate	20.90	23.48	18.80
Government Related	15.80	15.37	0.00
Utility	0.10	0.32	0.00
Cash/Short-Term/Other	3.05	0.73	0.00
Quality Distribution (%)			
AAA	14.52	14.32	0.93
AA	27.07	27.79	34.05
A	38.40	49.01	53.95
BBB	19.01	8.86	10.88
Not Rated/Below BBB	1.00	0.03	0.19
Top 10 Country Weightings (%)			
U.S.	53.13	52.82	61.00
Canada	8.28	9.29	12.70
Australia	7.81	8.81	8.00
Netherlands	6.13	5.80	4.00
Sweden	2.71	2.14	2.20
Germany	2.22	2.10	1.10
United Kingdom	2.18	2.03	2.10
France	3.58	3.44	1.70
Japan	1.79	1.22	3.50
Brazil	0.00	0.00	1.40
Norway	3.48	3.35	0.00

Sources: Barclays, iShares, Morningstar, SSGA, and Van Eck Global.

Notes: Data characteristics pulled between December 31, 2013 and January 24, 2014. Totals may not sum to 100% due to rounding. SPDR expense ratio is gross. Market Vectors' industrial/other corporate sector allocation consists of the following components: communications, 6.6%; technology, 4.0%; energy, 3.3%; consumer, non-cyclical, 2.7%; consumer, cyclical, 1.3%; basic materials, 0.8%; industrial, 0.2%. iShares and SPDR quality distribution are based on Moody's ratings; Market Vectors ratings based on an evenly weighted blend of Moody's, S&P, Fitch, and DBRS ratings.

Figure 9. Growth in Assets Under Management for Floating Rate Note ETFs

May 31, 2011 – December 31, 2013



Sources: iShares, SPDR, and Van Eck Global.

Conclusion

Much work over the last three years has gone into the planning and development of the new Treasury security. In the domestic floating rate note market, it will stand alone in credit quality and scale of issuance, and we already see plans for a new FRN index and perhaps three or more new ETFs. It's clear to us that FRNs will provide Treasury-only MMFs and other short-term investors with a new investment opportunity offering protection against the possibility of rising interest rates as well as a slight yield advantage over their current list of eligible investments. And, from the Treasury's perspective, it seems logical that FRNs will reduce the burden of rolling Treasury bill portfolios constantly and extend its maturities in a cost-effective manner.

The broad-based appeal of FRNs in other portfolio applications may well depend on their

spread over competing short-term products, how liquid they prove to be, and what happens in the broader economic environment with respect to interest rates, inflation, and market stress. While at this early juncture we don't expect to see long-term investors use FRNs to hedge anything except rising short-term interest rates, much remains to be seen, including: how FRNs are received by the market, the spread that's bid in auctions, where the ultimate demand derives from, how quickly the secondary market develops liquidity, what functions portfolio managers ultimately assign to FRNs, what trading strategies they might spawn, and how they may be used in financial engineering applications. ■

Appendix: Treasury Floating Rate Note Term Sheet

ISSUER

United States Treasury

DATED DATE

Last calendar day of a month.

ISSUE DATE

Original issue offerings will be issued on the last calendar day of a month, or the first business day thereafter. Reopening offerings will be issued on the last Friday of a month, or the first business day thereafter.

MATURITY DATE

Last calendar day of the month two years after the Dated Date.

MATURITY PAYMENT

Principal will be paid on the Maturity Date, or the first business day thereafter.

INTEREST DATES

Quarterly from the Dated Date, to and including the Maturity Date, on the last calendar day of a month.

INTEREST PAYMENTS

Interest will be paid on each Interest Date, or the first business day thereafter.

INTEREST

Accrual Period. From and including, the Dated Date or last Interest Payment date to, but excluding the next Interest Payment date or Maturity Date.

Interest Accrual. In general, the interest accrual for a particular calendar day in an Accrual Period shall be the Index Rate computed from the most recent auction of 13-week Treasury bills that took place on a day before the accrual day, plus the Spread, divided by 360, subject to a minimum of zero. However, a 13-week Treasury bill auction whose rate becomes effective in the two business day Lock-Out Period prior to an FRN Issue Date or FRN Interest Date shall be ignored for purposes of calculating the interest accrual on that FRN for that day. Instead, the rate in effect for the Lock-Out Period will be from the most recent 13-week Treasury bill auction result that occurred prior to the start of the Lock-Out Period.

Index Rate. The High Rate from the 13-week Treasury bill auction as announced by the Bureau of Fiscal Service and converted to a simple-interest money market yield on an actual/360 basis as computed in the Uniform Offering Circular.

Spread. As determined in the security's initial auction; expressed in tenths of a basis point.

Minimum Daily Interest Accrual. 0.000 percent

Reset Frequency. Daily

Day Count Convention. actual/360

Lock-Out Period. The two business days preceding an FRN Issue Date or an FRN Interest Date.

BUSINESS DAY

Any day other than a Saturday, a Sunday, or a day on which the Federal Reserve Bank of New York is closed.

STRIPS ELIGIBLE

No

CALCULATION AGENT

United States Treasury

ISSUE PRICE

Determined at auction

AUCTION TECHNIQUE

A single price auction format in which each competitive tender specifies a Discount Margin (which can be positive, zero, or negative, expressed in tenths of a basis point). Treasury will first accept in full all noncompetitive tenders up to \$5 million per submitter received by the closing time specified in the offering announcement. Competitive tenders will be accepted in order of Discount Margin, starting from the lowest Discount Margin, up to the Discount Margin needed to fill the public offering. The usual Treasury proration rules will apply if the amount of tenders indicating the highest accepted Discount Margin exceeds the amount of the public offering remaining. The Spread on a floating rate note offered in an original issue auction will be set at the highest accepted Discount Margin in that auction. The Spread on a floating rate note offered in a reopening auction will be as set in the note's original issue auction.

MINIMUM AND MULTIPLES TO BID, HOLD AND TRANSFER

The minimum to bid, hold and transfer is \$100 original principal value. Larger amounts must be in multiples of \$100.

MAXIMUM NONCOMPETITIVE AWARD

\$5 million