

US Rate Strategy Notes

Citi Treasury Index April Compositional Adjustment

- **Treasury Index Extension of 0.080 Years:** The Treasury Index is estimated to extend by 0.080 years due to the compositional adjustment.
- **TIPS Extension of 0.112 Years:** The TIPS Index is estimated to extend by 0.112 years due to the inclusion of the 5 year TIPS auction.

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Treasury & TIPS Index Duration Change Expectations at the End of April 2014

Since the beginning of Operation Twist, and now continuing into QE 3, the Citi Treasury Index month end duration change has been impacted by the Federal Reserve's purchases and sales. To calculate the estimated month-end duration change we must account not only for new Treasury issuance and the roll-off of securities that drop below 1-year to maturity, but also for Federal Reserve transactions in Treasuries.

Treasury Index Expected to Extend 0.080 Years

In aggregate we expect that the Treasury Index will extend by 0.080 years in effective duration. The extension due to new issuance and roll-off of existing securities is 0.130 years. The contraction due to Federal Reserve SOMA transactions is 0.050 years.

Figure 1. Estimated duration adjustment to the Citigroup Treasury Index owing to compositional change

Duration (yrs) of the April Index	5.004
Duration (yrs) of the May Index	5.084
Total Compositional Duration (yrs) Adjustment	0.080
Due to New Issuance and Roll-Off	0.130
Due to FED SOMA Operations	(0.050)

Source: Citi Research, Treasury, Federal Reserve

Duration Adjustment Due to New Issuance and Roll-Off

Figure 2 shows the issues that will be added to the May Treasury Index.

Figure 2. Issues to be added to the Citigroup Treasury Index

	Coupon	Maturity	Auction Date	Par Amount (\$MM)*
5-Year Treasury	1.625%	31-Mar-19	26-Mar-14	\$35,000
7-Year Treasury	2.250%	31-Mar-21	27-Mar-14	\$29,000
3-Year Treasury	0.875%	15-Apr-17	08-Apr-14	\$30,000
10-Year Treasury	2.75%	15-Feb-24	09-Apr-14	\$21,000
30-Year Treasury	3.625%	15-Feb-44	10-Apr-14	\$13,000
2-Year Treasury	0.25%	30-Apr-16	22-Apr-14	\$32,000

Source: Citi Research, Treasury, *Par Amount – Auction Size

Treasuries that are currently included in the April Treasury Index and will mature less than one year after the fixing date will be removed from the May Index. These issues are listed in Figure 3.

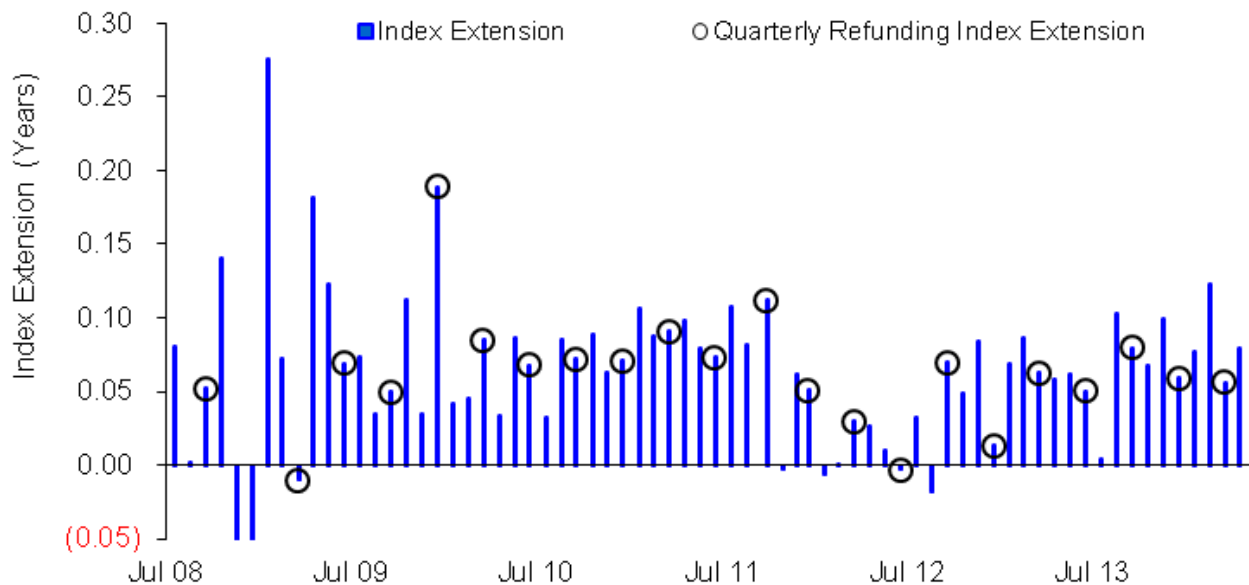
Figure 3. Issues to be removed from the Citigroup Treasury Index

	Coupon	Maturity	Par Amount (\$MM)
Treasury	0.25%	31-Mar-15	\$35,000
Treasury	0.375%	15-Apr-15	\$32,000
Treasury	2.50%	31-Mar-15	\$42,000

Source: Citi Research, Yield Book

Historical duration adjustments due to compositional changes are shown in Figure 4.

Figure 4. Historical Index Extension Due to Compositional Adjustment, August 2008 – May 2014



Source: Citi Research

TIPS Expected to Extend 0.112 Years (Modified Duration)

In aggregate we expect that the TIPS Index will extend by 0.112 years in modified duration. A summary of the duration changes is listed below, in Figure 5:

Figure 5. Estimated duration adjustment to the Citigroup TIPS Index owing to compositional change

	Modified Duration	Effective Duration
Duration (yrs) of the April Index	8.275	7.466
Duration (yrs) of the May Index	8.387	7.557
Total Compositional Duration (yrs) Adjustment	0.112	0.091

Source: Citi Research, Yield Book

Duration Adjustment Due to New Issuance and Roll-Off

There was one new TIPS auction within our fixing dates for this period. A summary of the auction is shown in Figure 6:

Figure 6. New Issuances to be added to the Citigroup TIPS Index

	Coupon	Maturity	Auction Date	Par Amount (\$MM)*
5-Year TIPS	0.125%	15-Apr-19	17-Apr-14	\$18,000

Source: Citi Research, Treasury, *Par Amount – Auction Size

TIPS that are currently included in the April Index and will mature less than one year after the fixing date will be removed from the May Index. These issues are listed in Figure 7

Figure 7. Issue to be removed from the Citigroup TIPS Index

	Coupon	Maturity	Par Amount (\$MM)
TIPS	0.50%	15-Apr-15	\$21,000

Source: Citi Research

Appendix A-1

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