

10-Year Agency Note Futures and Options: The TAG Spread

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Abstract

This article presents information about the composition of the deliverable basket for the CBOT 10-Year Agency Note futures contract and a discussion of the TAG spread (Treasury-Agency). Combined with existing CBOT Treasury futures and options, the new agency products allow users to isolate and trade this spread.

With the introduction of CBOT 10-Year Agency Note futures and options, the CBOT is augmenting its core financial contract offerings. These contracts are a natural extension of the existing CBOT financial complex and provide additional hedging functionality as well as new trading opportunities.

The contract specifications for CBOT 10-Year Agency Note futures call for physical delivery of non-callable Fannie Mae[®] Benchmark NotesSM or Freddie Mac Reference NotesSM with an original maturity not exceeding 10 years 3 months and a remaining maturity not less than 6 years 6 months. To be eligible for delivery, the note must have an original issue size of at least \$3 billion. For a new issue to be eligible for delivery, it must settle before the first position day of the contract month, though reopenings will be eligible for delivery during the contract month. The June 2000 contracts of CBOT 10-Year Agency Note futures and options began trading on March 15.

Delivery Basket

Table 1 lists the projected deliverable basket for the June 2000 10-year agency futures contract. Similarly, Table 2 lists the deliverable basket for the June 2000 10-year Treasury note futures contract. Notice that the number of issues in the two baskets is similar. Coupons for the June 2000 agency futures contract currently range from 5 1/8% to 7 1/4%, while the corresponding Treasury contract basket has coupons ranging from 4 3/4% to 6 5/8%.

The Benchmark Note and Reference Note programs have been in existence since 1998. Based on current issuing patterns, the basket should fill out in June 2001 with an approximate deliverable supply of \$110 to \$120 billion. For the June 2000 contract, the 10-year agency note basket will have approximately \$87 billion of deliverable securities.

While the dollar amount eligible for delivery is less than that of the current 10-year Treasury note futures contract, the supply exceeds that of the 5-year Treasury note futures contract. Combined with the large number of existing coupons, the deliverable supply should provide ample opportunity for basis trading.

Table 1 – June 2000 Delivery Basket for 10-Year Agency Note Futures

Issuer	Coupon	Maturity Date	Cusip	Cumulative Issuance (billions)	Conversion Factor	Remaining Maturity Jun-00
Fannie Mae	5 3/4	2/15/08	31359MDJ9	\$4.75 ^a	.9851	7 6/12
Freddie Mac	5 3/4	4/15/08	3134A2DT2	\$5.00	.9846	7 9/12
Fannie Mae	6	5/15/08	31359MDU4	\$9.00 ^c	.9999	7 9/12
Freddie Mac	5 1/8	10/15/08	3134A2UJ5	\$7.00 ^a	.9436	8 3/12
Fannie Mae	5 1/4	1/15/09	31359MEK5	\$7.00 ^a	.9506	8 6/12
Freddie Mac	5 3/4	3/15/09	3134A3EM4	\$7.00 ^b	.9831	8 9/12
Fannie Mae	6 3/8	6/15/09	31359MEV1	\$7.69 ^a	1.0258	9
Fannie Mae	6 5/8	9/15/09	31359MEY5	\$8.50 ^a	1.0438	9 3/12
Freddie Mac	6 5/8	9/15/09	3134A3M78	\$9.00 ^a	1.0438	9 3/12
Fannie Mae	7 1/4	1/15/10	31359MFG3	\$8.00 ^a	1.0895	9 6/12
Fannie Mae	7 1/8	3/15/07	31359MFL2	\$4.00 ⁺⁺	1.0616	6 9/12
Freddie Mac	?	3/15/10	?	\$10.00 ⁺⁺⁺	?	9 9/12

Total estimated supply \$86.94

^areopened once, ^breopened twice, ^creopened three times, ⁺likely to be reopened in April, issued at \$6.00^b, reopening estimated at \$2.00^b, ⁺⁺7-year note, ⁺⁺⁺likely to be issued in March and reopened in June, amounts estimated.

and the interest rate component in a corporate yield are separate. The interest rate component responds to credit supply and demand, and inflation concerns, just as Treasury yields do. The credit component responds to concerns about the overall business climate and any other factors that may affect the issuer's ability to service its debt. While credit spread behavior is not completely separate from interest rate action, credit spreads can move quite independently of interest rates. Typically, when interest rates are falling, the market considers such issuers to be more able to fulfill their debt obligations, and less likely to default. This should narrow the credit spread, though the speed at which this takes place may differ from the speed at which interest rates fall. At times, though, interest rates and credit spreads can move in opposite directions. In the fall of 1998, for example, Treasury rates were falling sharply, but credit spreads were widening. At that time, concerns about fallout from the Long-Term Capital Management situation created widespread concerns about credit quality.

Chart 1 illustrates the spread in yield between the on-the-run 10-year Fannie Mae Benchmark Note and the on-the-run 10-year Treasury note from February 2, 1998, (when the first 10-year Fannie Mae Benchmark Note started trading) to February 18, 2000. On-the-run 10-year Fannie Mae yields average 56 basis points (bps) higher than on-the-run 10-year Treasuries during this period. The spread moved considerably during this time, ranging between a 26 bp minimum, on February 10, 1998, and a 91 bp maximum, on August 31, 1999. The spread was 83 bps on February 18, 2000.

Table 2 – June 2000 Delivery Basket for 10-Year Treasury Note Futures

Issuer	Coupon	Maturity Date	Cusip	Cumulative Issuance (billions)	Conversion Factor	Remaining Maturity Jun-00
Treasury	6 1/4	2/15/07	9128272J0	\$13.1	1.0133	6 6/12
Treasury	6 5/8	5/15/07	9128272U5	\$14.0	1.0342	6 9/12
Treasury	6 1/8	8/15/07	9128273E0	\$23.0	1.0071	7
Treasury	5 1/2	2/15/08	9128273X8	\$12.0	.9702	7 6/12
Treasury	5 5/8	5/15/08	9128274F6	\$23.0	.9769	7 9/12
Treasury	4 3/4	11/15/08	9128274V1	\$22.0	.9177	8 3/12
Treasury	5 1/2	5/15/09	9128275G3	\$12.0	.9662	8 9/12
Treasury	6	8/15/09	9128275N8	\$22.0	1.0000	9
Treasury	6 1/2	2/15/10	9128275Z1	\$10.0	1.0358	9 6/12
Treasury	?	5/15/10	?	\$10.0	?	9 9/12

Total estimated supply \$161.1

Chart 2 shows the spread between the on-the-run 10-year Freddie Mac Reference Note and the on-the-run 10-year Treasury from April 7, 1998, (when the first 10-year Freddie Mac Reference Note started trading) to February 18, 2000. The yield spread over Treasuries averaged 59 bps for the period. As with the Fannie Mae Benchmark Notes, the spread over Treasuries for Freddie Mac Reference Notes exhibited considerable movement, ranging between a 31 bp minimum and a 91 bp maximum. The spread on February 18, 2000, was 86 bps over Treasuries.

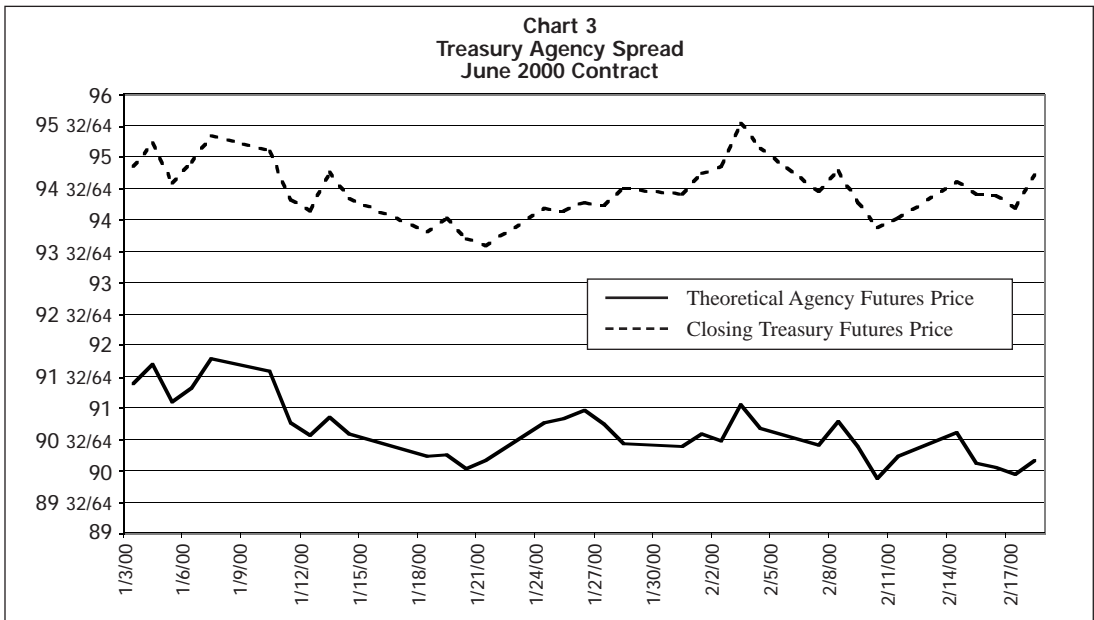
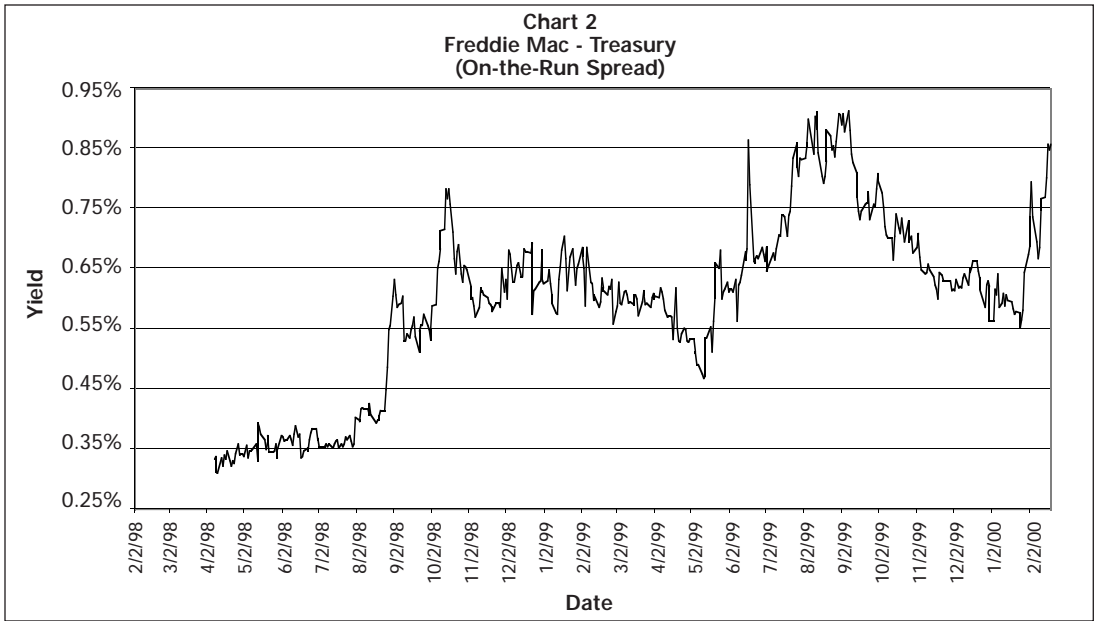
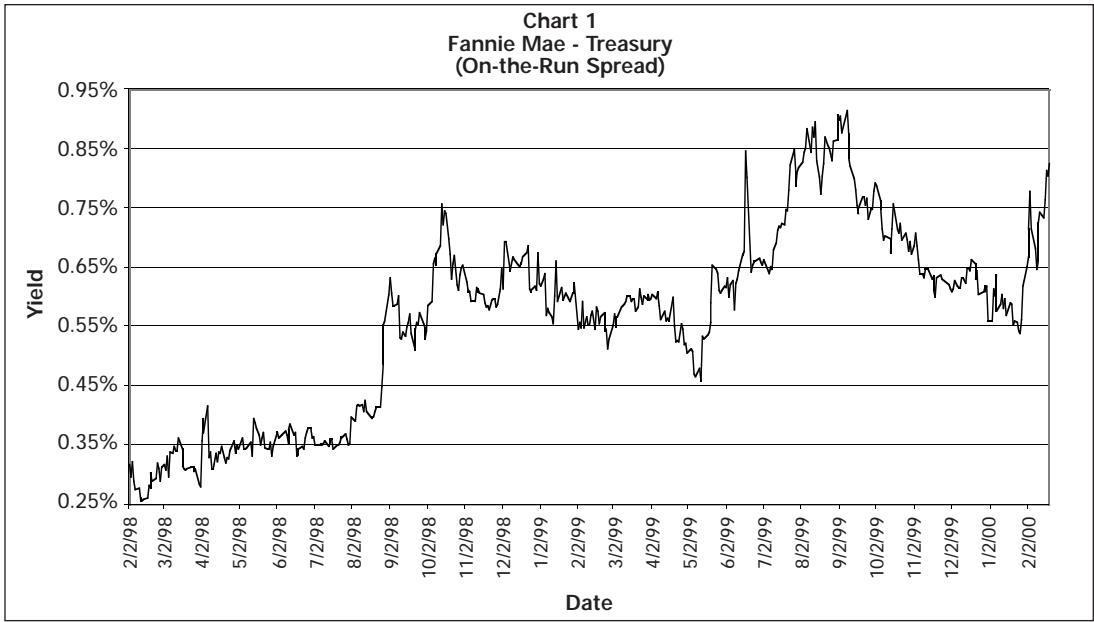
Chart 3 graphs the TAG spread in price points based on closing prices for the June 2000 10-year Treasury note futures and a theoretical June 2000 10-year agency note futures. The theoretical futures was calculated using closing prices for Fannie Mae Benchmark Notes and Freddie Mac Benchmark Notes eligible for delivery into the June 2000 contract, overnight general collateral repo rates, and an assumed delivery date of June 30, 2000. The theoretical futures price is based on the lowest converted price net of carry. Values were calculated for the period January 3, 2000, to February 18, 2000.

Based on the theoretical agency futures price, the TAG spread ranged between 3-19/64 and 4-35/64, and averaged 3-54/64. All three charts illustrate the dynamic nature of

The TAG Spread (Treasury-Agency)

Since Fannie Mae Benchmark Notes and Freddie Mac Reference Notes are not guaranteed by and are not debts or obligations of the United States or any federal agency or instrumentality other than Fannie Mae and Freddie Mac, they price at a spread to Treasuries much as corporate bonds do.

The TAG, like any credit spread, can move independently of yield levels, and these spreads are frequently more volatile than interest rates. In general, the credit component



the spread between agencies and Treasuries. While agencies and Treasuries do move together (over the period during which Fannie Mae Benchmark Notes and Freddie Mac Reference Notes have been trading, yields on agencies and Treasuries moved in the same direction 89% of the time), the spread can change considerably. CBOT agency futures and options provide market participants with an additional tool for adjusting exposures to interest rate risk and credit risk.

Example TAG Spread Table

Suppose you believe the spread between high-grade corporate yields and Treasury yields will increase while general interest rate levels will remain unchanged. You can take a position on your outlook by entering into a long TAG spread—that is, going long the 10-year Treasury futures and short the 10-year agency futures.

To initiate a long TAG position:

Go long 1 June 10-year Treasury at	.. 94-185
Go short 1 June 10-year agency at	... 91-025
Initial TAG spread 3-160

Suppose, further, that, close to the time horizon you projected for the trade, agency yields have increased while Treasury yields have remained stable.

To unwind, or close, the TAG position:

Go short 1 June 10-year Treasury at	.. 94-225
Go long 1 June 10-year agency at	... 90-050
Closing TAG spread 4-175

Result:

Closing TAG spread 4-175
Initial TAG spread 3-160
TAG change 1-015

Converting into decimals and scaling up to dollars, you can see that each spread in this example gained \$1,046.88 (Note: $1-015 = 33.5/32$; $33.5 \div 32 = 1.046875$; $1.046875 \times 1,000 = 1,046.875$).

Conclusion

While yield movements in Treasuries and agencies are highly correlated in general, the spread between these securities can exhibit considerable volatility. By pairing agency futures with related Treasury contracts, market participants can isolate this AAA-like credit spread. Using CBOT agency futures and options allows users the safety of a AAA-rated clearing corporation, a liquid Treasury futures contracts for spreading opportunities, and a low-cost trading environment due to the spread margin breaks offered by trading both Treasury and agency futures at the CBOT.

For more information, visit our web site at:
www.cbot.com/ourproducts/financial/agency.html

If you have questions, contact one of the product managers in the Market and Product Development Department at 312-341-7955.

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