

## Appendix: Marking to Market and Settling Auction Takedowns through FICC

FICC limits the exposure of its members and itself to credit risk arising from when-issued trading by marking to market when-issued purchase and sale contracts every day until settlement. The appendix box on this page shows how the contracts are marked. Note, in particular, the symmetric consequences of price changes: a buyer pays forward margin when the market price falls below the initial contract price (but makes it back by paying a lower invoice price when the seller delivers the securities) and a seller pays forward margin when the market price rises above the initial contract price (but makes it back by receiving a higher invoice price when delivering the securities).

Because the U.S. Treasury is not a member of FICC, its sale contracts to FICC members are not marked to market and it neither makes nor receives forward margin payments. This feature of the auction takedown service leads to more complicated margining procedures for auction awards to FICC members. To appreciate some of the complexities, consider two cases similar to those described in the appendix box, except that the seller is the Treasury instead of a dealer.

### Auction Takedowns

Suppose dealer X receives an auction award at a price of \$100. Following novation, the Treasury will be obligated to deliver the security to FICC at a price of \$100 and FICC will be obligated to deliver the security to X at the same price:



If the price of the security falls to \$95 following the auction, X (the buyer) pays \$5 forward margin to FICC and FICC marks the settlement price on X's purchase contract to \$95. However, FICC does not revise the settlement price on the Treasury's sale contract and it does not pay the \$5 to the Treasury. Instead, it invests the \$5. This leaves the contracts as



At 9:15 a.m. on the issue date, the Fed delivers the security to FICC against payment of \$100. FICC redelivers the security to X against payment of the same amount and issues a \$5 "delivery differential credit" to X. (Invoicing X \$100 instead of \$95 is important because the higher invoice price paid by X provides FICC with the cash needed to pay the Treasury. FICC always redelivers securities received from the Treasury at the higher of the auction price and the current market price to avoid liquidity strains.) Before 11 a.m. on the same day, FICC uses the \$5 received earlier from X to pay off the delivery differential

credit. This leaves X as a buyer of the new issue at a net price of \$100 (\$100 = \$100 paid upon delivery of the security, plus \$5 forward margin paid when the market price of the security fell from \$100 to \$95, less \$5 received in satisfaction of the delivery differential credit).

If the price of the security rises from \$100 to \$105 following the auction, FICC marks the settlement price on X's purchase contract to \$105. However, because it does not collect any forward margin from the Treasury, it does not have \$5 in cash to compensate X for the increase in the invoice price. In lieu of cash, FICC issues X a \$5 delivery differential credit. This leaves the contracts as



### Marking to Market and Settling a When-Issued Trade between Two FICC Members

Suppose initially that dealer A agrees to sell a security to dealer B in a when-issued transaction at a price of \$100. Following novation of the trade, A will be obligated to deliver the security to FICC at a price of \$100 and FICC will be obligated to deliver the security to B at the same price:



Suppose first that the price of the security falls to \$95 in subsequent when-issued trading. Dealer B then pays \$5 forward margin to FICC, FICC pays \$5 to A, and the settlement prices on A's sale contract and B's purchase contract are marked to \$95. On the issue date of the security, A delivers the security to FICC against payment of \$95 and FICC redelivers the security to B against payment of the same amount. Between the delivery payment and the earlier forward margin payment, B pays a total of \$100 and A receives a total of \$100.

Suppose alternatively that the price of the security rises to \$105 after the initial transaction between A and B. Dealer A then pays \$5 forward margin to FICC, FICC pays \$5 to B, and the settlement prices on the contracts are marked from \$100 to \$105. On the issue date of the new security, A delivers the security to FICC against payment of \$105 and FICC redelivers the security to B against payment of the same amount. Between the delivery payment and the earlier margin payment, B pays a total of \$100 and A receives a total of \$100.

## Appendix (Continued)

At 9:15 a.m. on the issue date, the Fed delivers the security to FICC against payment of \$100 and FICC redelivers the security to X against payment of \$105. Later in the morning, FICC pays off the delivery differential credit issued earlier to X with the difference between what X paid to FICC (\$105) and what FICC paid to the Treasury (\$100).

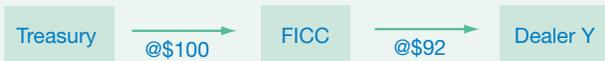
### Integrating When-Issued Trades with Auction Takedowns

One of the important benefits of FICC's auction takedown service is that, as shown in the table in the text, it integrates settlement obligations arising out of interdealer when-issued trading with dealer auction takedowns. This integration introduces further complexities into the process of marking dealer commitments to market.

Suppose that dealer X receives an auction award for a security at a price of \$100 and that the price of the security falls to \$95 following the auction. After X has paid \$5 forward margin to FICC and FICC has invested the \$5 and marked the settlement price on X's purchase contract to \$95, the contracts involving the Treasury, FICC, and X are



Suppose that X now agrees to sell the security to dealer Y in a when-issued transaction at a price of \$95. Y replaces X as the buyer from FICC, leaving X with no net settlement obligation. If the market price of the security falls further, to \$92, Y (the new buyer) pays \$3 forward margin to FICC and FICC marks the settlement price on Y's purchase contract to \$92. As before, FICC does not revise the settlement price on the Treasury's sale contract and it does not pay the \$3 to the Treasury. Instead, it invests the \$3. This leaves the contracts as



At 9:15 a.m. on the issue date, the Fed delivers the security to FICC against payment of \$100. FICC redelivers the security to Y against payment of the same amount and issues Y an \$8 delivery differential credit. Later in the morning, FICC uses the \$5 received from X and the \$3

received from Y to pay off the delivery differential credit issued to Y. This leaves Y as a net buyer of the new issue at a price of \$95 (\$95 = \$100 paid upon delivery of the security, plus \$3 forward margin paid when the market price of the issue fell from \$95 to \$92, less \$8 received in satisfaction of the delivery differential credit).

Suppose alternatively that dealer X receives an auction award for a security at a price of \$100 and that the price of the security rises to \$105 following the auction. After FICC has marked the settlement price on X's purchase contract to \$105 and issued a \$5 delivery differential credit to X, the contracts involving the Treasury, FICC, and X are



Suppose that X now agrees to sell the security to dealer Y in a when-issued transaction at a price of \$105. Y replaces X as the buyer from FICC. If the market price of the security rises further, to \$108, X (the original auction buyer and the seller to Y on the when-issued contract) pays \$3 forward margin to FICC and receives an additional \$3 delivery differential credit. (X pays forward margin on its when-issued sale to Y for the same reason that, in the appendix box, A pays forward margin on its when-issued sale to B when the price of the security rises. X does not receive \$3 forward margin on its purchase contract because that contract was with the Treasury. Instead, it receives an additional \$3 delivery differential credit.) FICC pays the \$3 (received from X) to Y and marks the settlement price on Y's purchase contract to \$108. This leaves the contracts as



At 9:15 a.m. on the issue date, the Fed delivers the security to FICC against payment of \$100 and FICC redelivers the security to Y against payment of \$108. Later in the morning, FICC uses the difference between what Y paid to FICC (\$108) and what FICC paid to the Treasury (\$100) to pay off the \$5 and \$3 delivery differential credits issued to X.