

# Bank Asset/Liability Management

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## Evolution of Over-the-Counter Derivatives and Associated Accounting Considerations

Sometimes it takes a while for accounting guidance to catch up with financial innovations. A case in point arises in connection with the implementation of Dodd-Frank and the expansion of trading of over-the-counter (OTC) derivatives on *swap execution facilities* (SEFs).

Importantly, the changes in the derivatives marketplace that have resulted from this legislation will likely not apply to banks that qualify for the hedging exemption thus allowing their trades to continue to be handled *the old fashioned way*. The requirement to trade on SEFs does apply, however, to major financial institutions and other eligible contract parties (ECPs), notably hedge funds that actively trade these contracts.

These affected entities will have to get used to some new processing requirements. It is not clear, however, that the accounting treatments for these types of contracts have necessarily adapted to the changes that have been mandated by the Dodd-Frank regulations.

When OTC derivatives are transacted on a bilateral basis between end-users and dealers, dealers quote bids and offers and end-users essentially function as a price-taker – buying at the offer price or selling at the bid. Generally, the dealers' profits are derived from the bid-offer spread, and no additional transaction fees have been required.

**Expanding Application of SEFs.** In today's marketplace, the expanding use of SEFs preserves much of the dealer's role and their reliance on the bid-ask spread as their basis for compensation.

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However, the use of SEFs has also introduced new execution charges and clearing fees that are charged to end-users. More significantly, the new clearing process may foster new cash flow obligations in connection with derivatives executed on SEFs that are not widely practiced under the bilateral trading model. These cash flow obligations are a byproduct of a *margining* process that applies to all cleared derivatives transactions.

**Margining Defined.** Margining is a long-practiced tradition on futures exchanges. It serves to protect traders from the risk of default, i.e., credit risk, by

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requiring daily cash settlements that effectively monetize gains and losses every day thus collecting from the losers and paying to the winners. These cash flows are termed *variation margin*. They are calculated by the clearing house, reflecting price adjustments pertaining to all the futures contracts that are cleared by that facility. That is, each open futures position is marked to its settlement price, and the clearing house then collects any changes in value from the losers and pays off to the winners.

**Original Margin.** As a prelude to entering into a futures position, an up-front collateral deposit is also required. This collateral is called *initial margin* or *original margin*; and while variation margin must be settled in cash, initial margin may be other assets besides cash and most often includes government securities or letters of credit. Required amounts for initial margin are determined by the exchange clearing house, contract by contract. Conceptually, the idea is that the required initial margin amount should be large enough to cover the effect of one day's price change, thereby assuring the clearing house the capacity to pay the winner on each trade, every day, starting from day one. Cash in hand, winners in the futures market no longer have any concerns about the credit quality of the counterparty on the other side of the trade.

**The Futures Commission Merchant.** Access to futures markets requires either membership on the exchange or else execution through an existing member of the exchange that is willing and able to function as a broker. The formal name of this kind of broker is a *futures commission merchant (FCM)*. Besides handling the order execution, FCMs also manage all of the margining requirements on behalf of their clients. FCMs also interface with another critical entity in the futures market, i.e., a *clearing firm*. Clearing firms play the vital role of being guarantors of performance. That is, every buyer and seller in each trade is the customer of at least one clearing firm. The *clearing house* calculates the aggregate variation margin obligations for each of the clearing firms reflecting all of their clients', as well as any of its own proprietary positions, thereby collecting from the clearing firms with aggregate losses and paying to the clearing firms with aggregate gains. This adjustment is distinct, but

related, to an analogous set of variation margin settlements between the clearing firms and each of their respective customers. FCMs are customers of clearing firms, and they also perform variation margin settlements with their customers, the end-users. Thus, the clearing firms and the FCMs serve as conduits for the cash flow transfers that occur daily, ultimately between the opposing sides of open futures positions.

In many cases, the FCMs are distinct institutions from those of the clearing firms, but sometimes not. That is, in the futures world there may be non-clearing FCMS; but there may also be FCMs that are also clearing firms, performing both functions. Still it is useful to distinguish three distinct variation margin payments including a) those settlements made between clearing firms and the clearing house, b) those settlements made between the clearing firms and their customer FCMs, and finally c) those settlements made between the FCM and their end-user customers.

**The Over-the-Counter World.** In the OTC world, at least at present, SEFs perform the same function as the futures exchange. They are the platforms at which market participants gather, where bid and offers are quoted and trades are executed. Access to these platforms is granted to *eligible market participants*. However, in each case, the trading entity must either be a registered FCM or have a relationship with an FCM. In this arena, at least at the present, all of these FCMs also function as clearing members, bearing those same responsibilities as described above for futures clearing firms.

Just like in the futures market, derivative transactions traded on SEFs are marked to market, daily, and settled in cash. What's more, any cash in excess of the initial margin requirement are unrestricted and available to be drawn down by the end-user.

**Exchange Traded Swaps.** In the world of exchange-traded swaps, however, the variation margin amounts incorporate a *price alignment interest* component. Specifically, this is in addition to any gain or loss on the derivative per se. The required variation margin amount adjusts this aggregate gain or loss to date by an incremental amount designed to

reflect the overnight interest amount associated with the aggregate gain or loss on the contract to date.

To better understand the difference between futures' variation margin and swaps' variation margin, consider two trades: a traditional futures contract versus a cleared swap. Assume a trader enters a long futures position at a price of \$50, and at the end of the day the price settles at \$51. That trader would have a gain of \$1, times a contract multiplier, and the trader would expect to receive that amount the next day, as a variation margin adjustment. Note that, with the receipt of the variation margin payment, our trader now has the capacity to invest those funds and earn incremental interest income on those gains. However, these incremental effects are external to the contracts processing requirements.

In contrast, now consider the buyer of a cleared interest rate swap. At the point of trade this swap is at market, i.e. a value of zero. However, at the end of the day it is marked to market. Assume its end-of-day value is \$10,000 – an asset for the buyer and a liability for the seller. In this case, the variation margin that the buyer would receive the next day would be \$10,000 less one day's interest on \$10,000. Here, again, the winner on the derivative enjoys the opportunity to earn interest income on the variation margin amounts received. However, in this case, the price alignment interest feature effectively forces this incremental amount to be returned to the counterparty.

The same concepts apply in reverse for losing derivative positions. For a futures contract, the economic cost includes either the direct financing cost associated with borrowing to meet the margin call obligation, or else an opportunity cost associated with foregoing interest income on those funds because they no longer can be invested in interest bearing instruments. Again, neither of these two costs is included in the calculated variation margin amount. In contrast, the analogous incremental interest component is an *explicit* component of the variation margin calculation with the cleared swap contracts.

**Dealing with Price Alignment Interest.** Critically, the presence of the price alignment interest - or not – should not distract us from the understanding that whatever the variation margin amount, that cash flow is an unrestricted cash payment that moves from the loser to the winner. In this case, any amounts held by the FCM in excess of the initial margin requirements are available to be withdrawn and spent like any other cash balances. More pointedly, this cash flow is *not*

collateral that can be expected to be returned to the paying party. It is a cash payment, and any balances in excess of the initial margin requirement are available to be used – free and clear.

Although theoreticians may discern a difference between, a) the value of a derivative contract before a variation margin adjustment and, b) the amount of the required variation margin adjustment, the intent of the process has historically been to replace the value of the derivative with its cash equivalent, thereby eliminating the credit risk associated with the derivative. A corollary of this principle is that, with determination and recognition of the variation margin payable or receivable, this payable or receivable, and ultimately the cash settlement, necessarily means that the market value of the derivative, per se, reverts to a zero value.

**Inconsistent Accounting Treatment.** In my own experience, I have observed a lack of consistency in terms of the accounting treatment in connection with the carrying value of these cleared derivatives. For example, some entities report the carrying value of their cleared derivatives at values that reflect aggregate gains and losses, while others show values that reflect the single day payable or receivable related to the yet-settled variation margin – an amount that in the vast majority of cases will not differ significantly from zero.

Assuming cash accounts, inclusive of cash held at FCM accounts, are recorded correctly, if derivatives are carried at values reflecting their aggregate gains or losses, derivative's effect will be shown twice on the balance sheet. In such cases, however, an additional contra account would be needed to avoid double counting.

In effect, this accounting treatment handles the variation margin *as if* it were collateral – i.e., a *temporary* cash adjustment that will later be returned, such that with the payment of variation margin the entity also records a receivable in that amount. Conversely, with a receipt of variation margin, the entity also records a payable of that same amount. Critically, this treatment is appropriate for bi-lateral derivatives transactions where collateral adjustments are made, but where the ownership of that collateral remains with the entity that posts it. However, applying this treatment to derivatives that have unrestricted, cash variation margin settlements becomes problematic. This treatment distorts the economics of the transaction for cleared derivatives.

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For these transactions, cash settlements serve to replace the market value of a derivative with its cash equivalent. In this author's judgment, it seems inappropriate to show a balance sheet value for derivatives that fails to respect this reality, as doing so necessarily inflates the balance sheet and thus distorts traditional metrics such as debt/equity ratios or liquidity ratios.

The fact is that cleared derivative transactions *are* different from traditional bilateral derivatives transactions. However, depending on how these contracts are reported on the balance sheet, those differences may not be transparent. The lack of consistency of the accounting treatment for these cleared derivative contracts necessarily complicates any comparative analysis of companies that apply differing accounting treatments.

### **Transition from Bi-Lateral Derivatives to Swaps.**

Finally, another potential problem relating to the transition from traditional bi-lateral derivatives to swaps cleared on an SEF has to do with hedge accounting concerns. For entities that hedge benchmark interest rate exposures in cash flow hedges, it has been a fairly straightforward exercise to define the swap in a way to achieve *perfect* accounting, where no ineffective earnings will arise. This perfect swap, or the hypothetical swap, can be designed and transacted. The notional of this swap would be equal to the outstanding balances being hedged through the term of the swap; and the accrual periods and the rate setting and settlement dates of the swap would be set to match those of the associated exposure being hedged. In the parlance of the accounting literature, the *critical terms* of the derivative would have to match those of the hedged item. While this matching may hold for the bilateral hedge design, once this swap is assigned to a clearing entity, the mirrored cash flow features go out the window.

It is hard to consider the critical terms to be matching when the debt has periodic settlements of interest payments but the swap has daily settlements of variation margin. Perhaps, with a wink and a nod, this discrepancy will be overlooked, and perfect effectiveness will be assumed for both traditional, i.e., bilateral, contracts and those cleared on an SEF, when both relate to the same underlying swap features -- but then again, maybe not. It remains to be seen whether

accounting practice will ultimately distinguish between these alternative market designs.

These two issues are fundamental: What is the correct carrying value of a swap that requires daily cash settlements? And can such swaps be considered to be *perfect*, when the settlements on the exposures being hedged have *other than* daily settlements? Ideally, reporting entities should seek resolution on both issues before transitioning to having their derivatives cleared on SEFs.

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