



Overlay managers provide a way for an institution to synthetically implement its investment policy and investment ideas. Managers use derivative instruments, such as futures, options, swaps, and forwards, to assist institutions in attaining desired portfolio exposures. The advantage of an overlay program is that it can give institutions more flexibility in implementing their asset allocation policies than by investing in traditional instruments alone. It can also enhance the expected risk-adjusted return of a portfolio through rebalancing, cash equitization, and portable alpha. The use of an overlay manager could be even more advantageous in this financial crisis. Many institutions have found themselves holding investments once considered liquid that are now illiquid. Derivative instruments can be used to free up cash without altering the investment policy.

Overlay managers generally do not make discretionary investment decisions. Instead, they take direction from the client. Below, we cover some potential uses for overlay managers in institutional portfolios and briefly review the mechanics.

### **Asset Class Beta**

Derivatives, such as exchange-traded futures and swaps, can be used to replicate traditional beta exposure. For instance, an institution can essentially replicate an S&P 500 index manager by purchasing an S&P 500 futures contract and holding the notional value of the contract in cash equivalent instruments. If the cash instruments match the performance of the imbedded financing rate in the futures contract, usually LIBOR, the futures position plus the cash position should match the underlying index. Generally, investors who desire pure index exposure for the long-term can do so the most efficiently through traditional index funds. However, there are cases where it makes sense to use derivatives instead of traditional funds. One such case is for temporary exposures. Transitioning from one active manager to another can result in a portfolio being uninvested temporarily. Equity futures can bridge this gap with minimal transaction costs. A private equity placeholder portfolio may also benefit from using futures because of low transaction costs and ease of liquidation. There are some instances where it is advantageous to use futures for long-term allocations, as well. For indexes with heavy short demand, such as emerging market equities and small-cap stocks, futures may trade below fair value. Investors seeking long exposure to these asset classes can synthetically create the index and lock-in outperformance with minimal additional risk.

### **Rebalancing**

Since derivatives can be used to replicate asset class beta, they can also be used to rebalance in a disciplined, cost effective manner. Overlay managers can monitor positions daily and rebalance the portfolio as needed to return to policy. Rebalancing could be implemented automatically or with client consent. This avoids the lag and implementation issues surrounding rebalancing using month-end valuations through traditional managers and index funds. Naturally, not all asset classes can be replicated with futures, such as alternative investments and some specific equity strategies. However, futures can be used to effectively minimize differences from policy.

The current environment presents additional advantages. High volatility can make automatic rebalancing even more compelling, as more frequent rebalancing could capitalize on the whipsaw market we are currently experiencing. In addition, some credit instruments and vehicles have turned illiquid or have prohibitively high trading costs, which make rebalancing from fixed income to equities problematic. So long as the instruments are not permanently impaired, it could make sense to rebalance by purchasing equity futures without selling the fixed income instruments. Of course, such an approach increases risk because the fixed income instruments could materially underperform the imbedded financing rate in the futures.

### **Portable Alpha**

An overlay manager can facilitate a portable alpha program. In a portable alpha program, an institution can take the alpha or non-traditional beta from a manager in one asset class and transport it to another. An overlay manager's role in this would be to transport the alpha. For instance, one could put S&P 500 futures on top of a hedge fund portfolio. If the hedge fund portfolio outperforms the short-term rate (usually LIBOR) imbedded in the futures contract, the program will add value relative to a straight index investment. Portable alpha is not limited to hedge funds. Any instrument with a high probability of outperforming LIBOR can be used. For instance, the high credit spreads on GSE-backed mortgage-backed securities make it very likely that they will perform better than LIBOR in the coming years. Treasury Inflation-Protected Securities (TIPS) could also be a good candidate for equitization because inflation breakeven rates are approaching zero.

An institution can remove undesirable beta from active managers with derivative instruments. For instance, an institution that wishes to underweight small-cap stocks in favor of large-cap stocks could simply reduce or eliminate the exposure to a small-cap manager in favor of a large-cap manager. Alternatively, if an institution employs an active small-cap manager with a positive expected excess return, it could instead sell Russell 2000 futures and purchase S&P 500 futures. In this way, the manager's excess return is transported from an undesirable index (Russell 2000) to a more desirable index (S&P 500).

### **Cash Equitization**

Many active equity managers hold a nominal amount in cash (~5%). Under the assumption that equities rise over the long-term, this could be a drag on investment returns. An overlay manager can monitor the cash holdings of an institution's equity managers and equitize the cash holdings through futures. While this may not sound that significant, if one assumes a 10% equity return, a 5% cash balance in an active manager's portfolio can cost 50 bps of performance. Equitization with futures can eliminate the expected opportunity cost of holding cash.

### **Portfolio Tilts**

Futures and swaps can be used to implement portfolio tilts that are difficult to implement with traditional instruments. For instance, one of our highest conviction ideas is that small-caps will underperform large-caps over the next few years. To capitalize on this, one can eliminate small-cap exposure in the long-only equity portfolio. However, small-caps comprise only 10% of the domestic equity market, so eliminating small-caps can only add marginal return versus the broad market. One can tilt further away from small-cap by shorting Russell 2000 futures and going long an equal amount in S&P 500 futures. There could be other instances where it makes sense to implement tilts through futures and swaps.

### **Option Strategies**

An overlay manager can also implement option strategies. This includes purchasing portfolio protection by buying puts on major equity indexes, or implementing a short volatility program by writing put and call options on indexes to collect premium with the idea that volatility will be less than that priced by options.

### **The Mechanics**

Derivative instruments can be separated into two categories—exchange-traded and over-the-counter. Exchange-traded derivatives, such as futures, trade on an exchange such as the Chicago Mercantile Exchange. The exchange's clearinghouse acts as the counterparty, which makes counterparty risk minimal. Over-the-counter contracts, such as swaps, are typically arranged through large commercial or investment banks, and the bank typically acts as the counterparty. An overlay manager will execute trades on exchange-traded instruments, and will assist in documentation for over-the-counter contracts.

For exchange-traded futures, cash is not exchanged when a position is entered. Instead, margin must be posted with the broker, which is usually about 5% of the notional contract value for equity derivatives. Therefore, it takes little cash to gain significant notional exposure. The brokerage margin account is marked-to-market each day based on the change in the futures contract. So, if one purchases an S&P 500 futures contract with 5% margin. A 1% decline would mean the margin balance would decline from 5% of the notional value to roughly 4%. Conversely, a 1% increase would increase the margin balance from 5% to roughly 6% of the notional amount. If the margin balance falls below a defined threshold, the

investor will receive a margin call and will be required to wire sufficient funds to the broker to restore the initial margin requirement. For this reason, ready access to cash is required to be able to meet any margin calls. Futures have a preset expiration date. Equity futures, for instance, are offered with quarterly expirations. While contracts are offered expiring over one year out, the nearest contract to expiration is usually used because it tends to be the most liquid. Therefore, investors in equity future contracts must roll (sell contracts near expiration and buy the next nearest to expiration) every three months.

As noted previously, exchange-traded futures are backed by the exchange's clearinghouse. The clearinghouse stands behind all contracts and absorbs defaults by any customers. While no system is risk free, the clearinghouse structure minimizes the risk. Even if a clearinghouse fails, an investor would only be exposed to one day of market movements, since margin accounts are adjusted daily. A second risk is the failure of the broker where the margin balance is held. Brokers must keep domestic, exchange-traded margin funds in a segregated account in the customer's name. Theoretically, the funds should be there even if the brokerage firm fails. For example, Refco's and Lehman's domestic brokerage customers were protected through the firms' bankruptcies. One can minimize the risk of a broker failure by keeping near the minimum margin balance with the broker.

Over-the-counter contracts (OTC) are negotiated with a commercial or investment bank. An advantage of OTC contracts is that one can obtain exposure on a greater number of indexes than are traded on exchanges. Further, they can be customized to meet an institution's particular needs. The primary disadvantages are that they tend to be more expensive than exchange-traded contracts and the counterparty risk is higher. Many institutions that used Refco and Lehman as OTC counterparties suffered losses.

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