**Subject:** madoff
**From:** [redacted]
**Date:** Fri, 21 Nov 2003 11:28:50 -0500
**To:** [redacted]
**CC:** [redacted]

I have kept this note to a restricted circulation:

I had some further conversation with [redacted] on the Madoff data. I also looked at some daily volume data on and around the OEX option transaction dates as indicated by Madoff's statements.

I was specifically trying to address the question of how big a fund base can madoff trade with this strategy - numbers were thrown out the other day between $5bln and $15bln - by focussing on the option volume numbers.

1. Recall that Madoff's strategy involves a collar, that is a put and a call. The volume numbers provide total calls executed on the OEX and total puts. In the two indpendent set of statements which [redacted] analysed the strikes were always the same for both accounts. Make the generous assumption that 50% of the volume was in the most liquid strike (it seems to average 25-25%).

[redacted]

By this measure Madoff could only do $750m. That is with him doing 100% of the option volume in his chosen strike (with the generous 50% assumption). Lets assume that he spreads it over 3 days - so we get to 2.1bln - still far short of the target numbers.

2. Another important point: In every case that [redacted] examined the option strike (call) is the one closest to the close in the underlying market. Of course the market close is not known until the close!! Does this mean that all the options are done almost at the close?

3. The volume does seem to spike on the days that Madoff is executing, on the days we examine by a factor of 3-4. This must produce a deterioration in execution prices - and for 15bln!

4. When we examined this issue before, we concluded that maybe he does the options in the OTC market. We have spoken to several market makers in OTC equity options, none of them claim to see any significant volume in OEX options. Recall that [redacted] stated that Madoff had said it was necessary to spread trades over several days - why if you are doing OTC?

5. Recall point 2. This would indicate that the OTC options would also have to be done at the end of the day (to get a strike near the close). Are we to believe that the market makers would take on $15bln of market risk at the close? Of course they might (might!!!) be willing to take the option risk if Madoff provided the market hedge in the underlying (ie they did the whole package with Madoff) but we already know that the trades in the underlying, compared with the closing prices, would leave the OTC counterparty showing losses (as our account always shows gains).

6. Of course ALL of our trades are with Madoff as the principal - so our option positions are OTC with Madoff so he can choose to use any strike, and any total volume he chooses, but the risk must be covered somewhere if he is doing these trades at all?

So we need an OTC counterparty (not necessarily a bank) who is willing to do the basket of the options plus the underlying with Madoff at prices unfavourable for the OTC counterparty - in 10-15bln!!!

Any suggestions who that might be

None of it seems to add up.

[redacted]