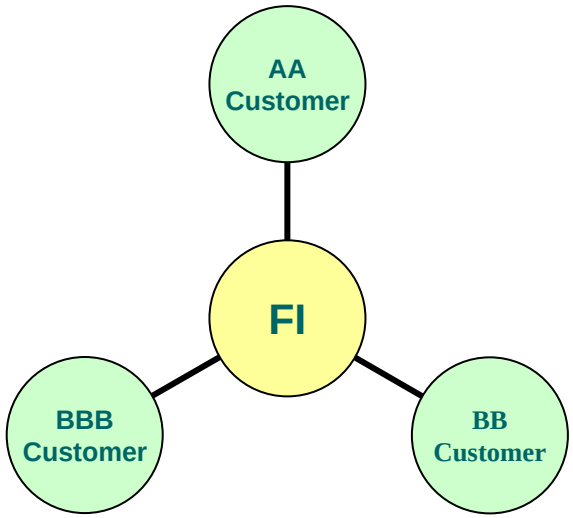
Centralized Clearing of the Canadian OTC Markets – Managing Risk in a Mutualized World

Introduction

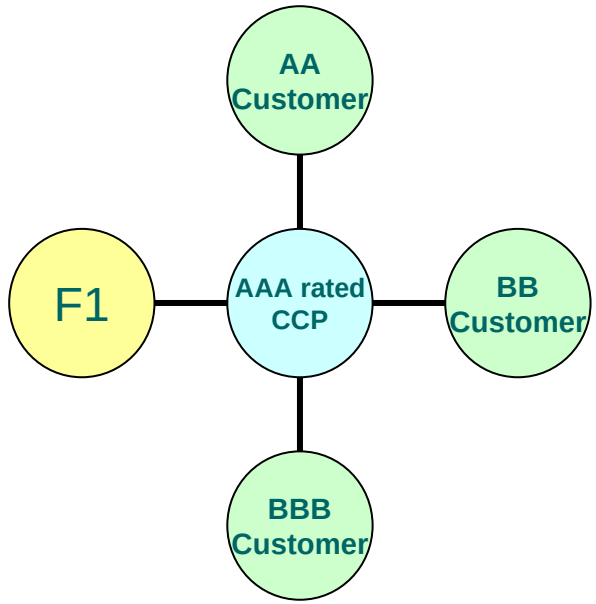
This presentation discusses the risk management challenges faced by financial institutions when dealing through a central counterparty (CCP) clearing service.

Counterparty Credit Risk

Without CCP Service



With CCP Service



The FI's credit risk to a number of different counterparties is replaced with credit risk to a single CCP counterparty.

If the CCP has been designated "systemically important" by the country's central bank, the FI can probably assign it a credit rating equal to that of the country's debt.

But has the CCP really replaced all of the credit risk the FI had with the other counterparties?

Most CCPs are based upon a “survivor pay” risk model

- All participants are required to contribute to a clearing fund.
- If a participant fails, the CCP sweeps all collateral pledged by the defaulting participant, followed by the defaulting participant’s contribution to the clearing fund.
- **If that still isn’t enough to cover the shortfall, the CCP then sweeps the survivors’ contributions to the clearing fund. Let’s call this “survivor risk”.**

How to Measure Survivor Risk?

Fairly easy to quantify the $ at risk

- Most CCPs cap this risk = 1-3 x the $ currently contributed, after which the survivor is entitled to walk away from membership.
- The problem is that it's difficult for a member to place a "limit" on its clearing fund contributions.

How to Measure Survivor Risk? (cont'd)

Much harder to quantify the likelihood of loss

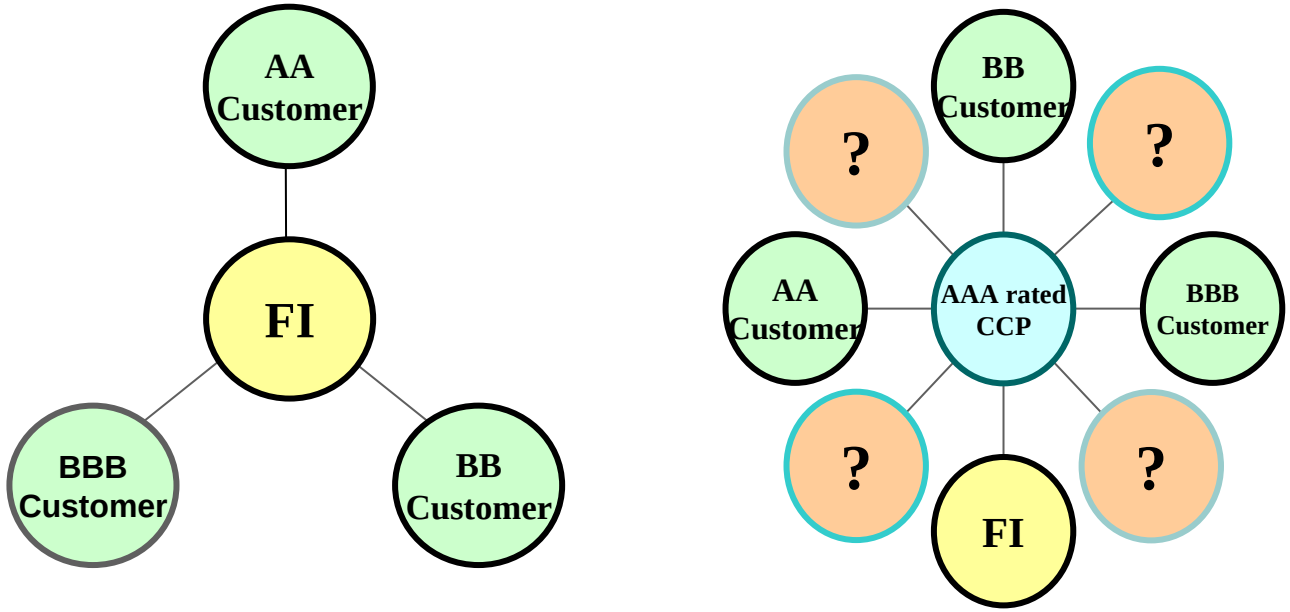
- Stage 1 : One or more members default
- Stage 2: CCP sweeps defaulters' margin and clearing fund contributions
- **Stage 3: CCP sweeps survivors' clearing fund contributions**
- Stage 4: CCP exhausts all other financial resources
- **Stage 5: CCP fails on its trades with survivors. (The government may step in at this point.)**

We rated Stage 5 (counterparty) risk AAA.

But Stage 3 occurs well before Stage 5.
So, what do we rate Stage 3 (Survivor) risk?

How to Measure Survivor Risk? (cont'd)

The likelihood of loss depends on
the probability of default of the other members



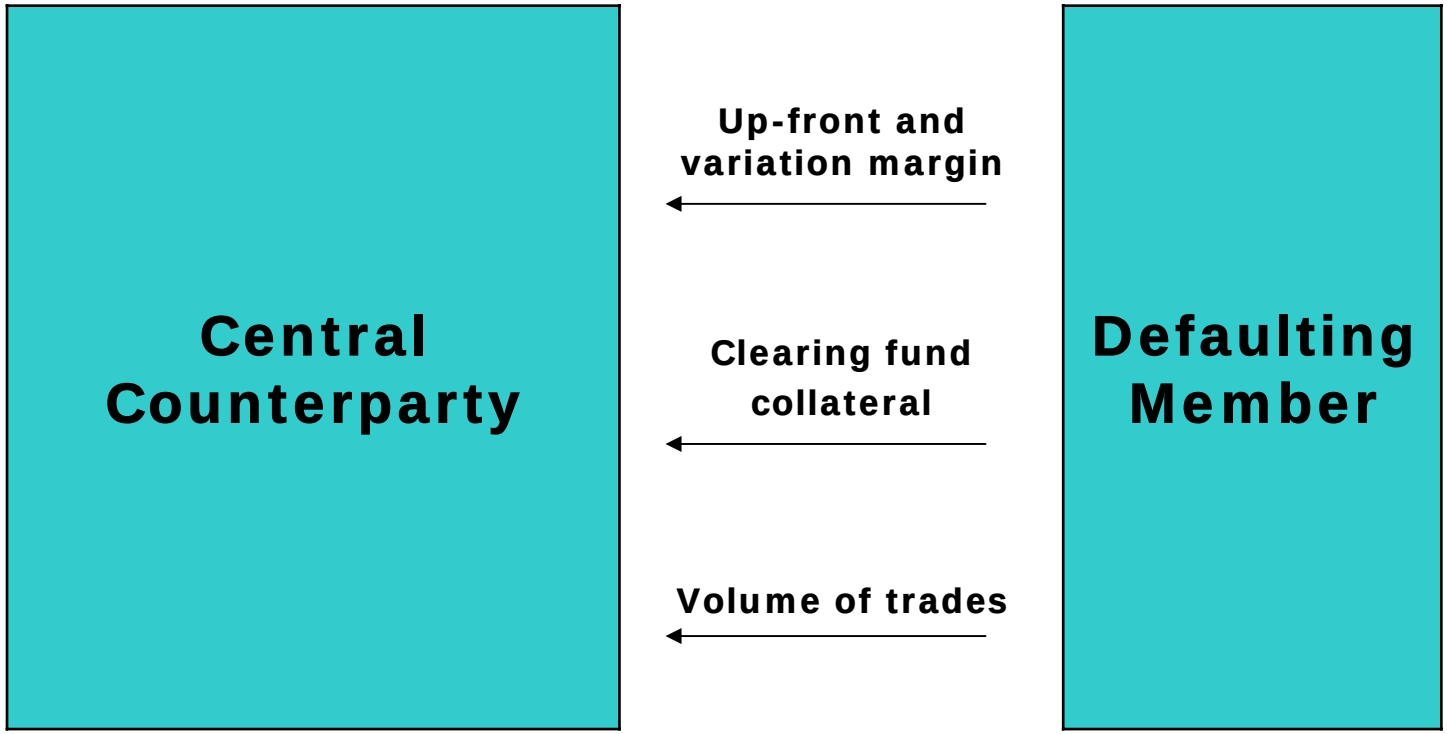
A CCP has many members that the FI may not be familiar with.

How does the FI measure the Probability of Default of these members?

Would the FI have been willing to deal with these other members on a bi-lateral basis? (i.e. is the FI happy with the CCP's membership standards?)

How to Measure Survivor Risk?

The likelihood of loss also depends on the adequacy of the CCP's risk model



Challenges:

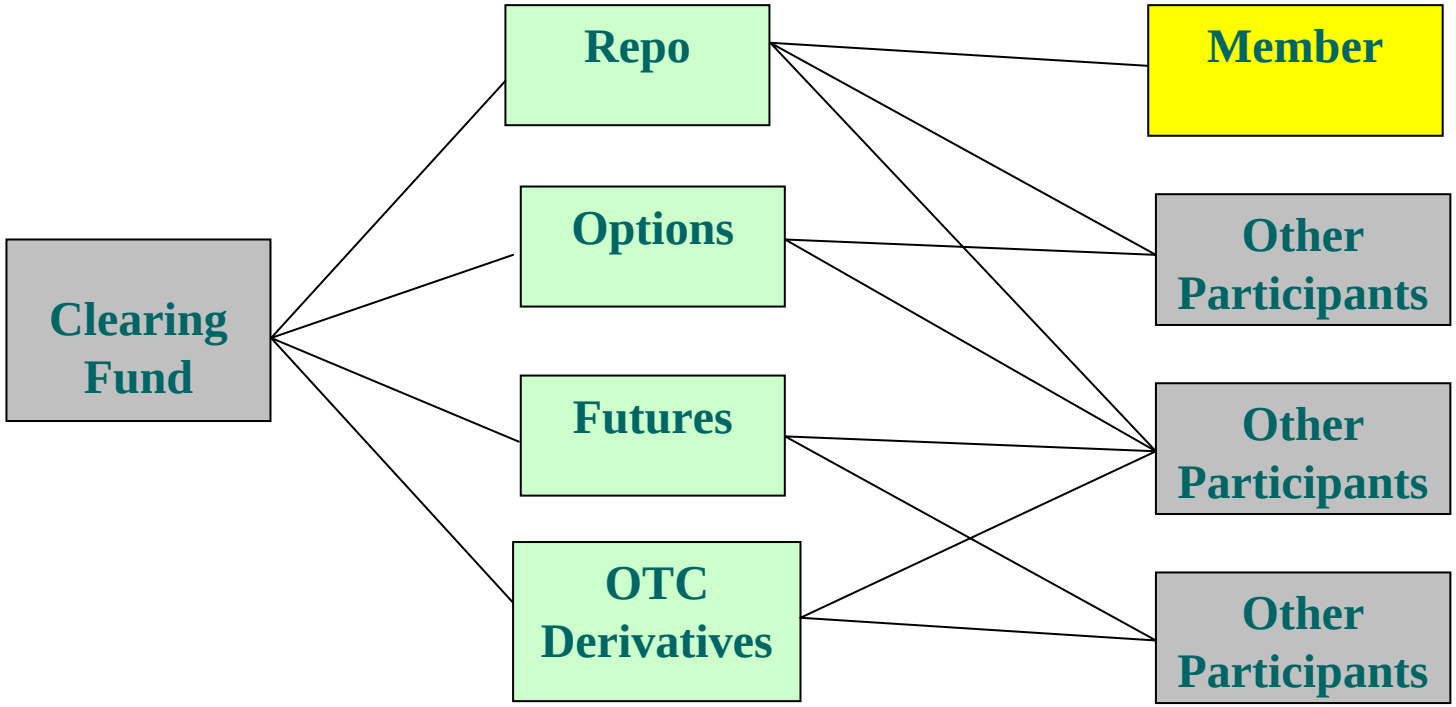
- Each FI wants the risk model to reflect its own risk appetite for dealing with each member on a bi-lateral basis.
- Different FIs have different risk appetites.

Ideally, an FI wants the risk model to ensure a defaulting member's margin and clearing fund contributions are sufficient ("Defaulter pay").

But since these requirements apply equally to the FI, the FI does NOT want these requirements to be so high that participation becomes unprofitable.

How to Measure Survivor Risk? (cont'd)

This becomes even more complex if the clearing fund covers multiple platforms/risk models.



A member participating in only one platform still needs to analyze ALL of the risk models and ALL of the participants, in order to quantify the risk.

A Parting Thought!

Should

a) counterparty credit risk with a CCP and

b) clearing fund “survivor risk” with the same CCP

be considered exposures to the same entity, and aggregated accordingly?

Presumably, exposures to the same entity should have the same probability of default.

But the likelihood of a CCP having to sweep a member’s clearing fund contributions is much higher than the likelihood of a CCP actually defaulting on its transactions with a member!