

**“Financial Reform:
Intended and Unintended Consequences”**



**Harvard Electricity Policy Group
Fifty-Ninth Plenary Session**
*Cambridge, Massachusetts
May 20th, 2010*

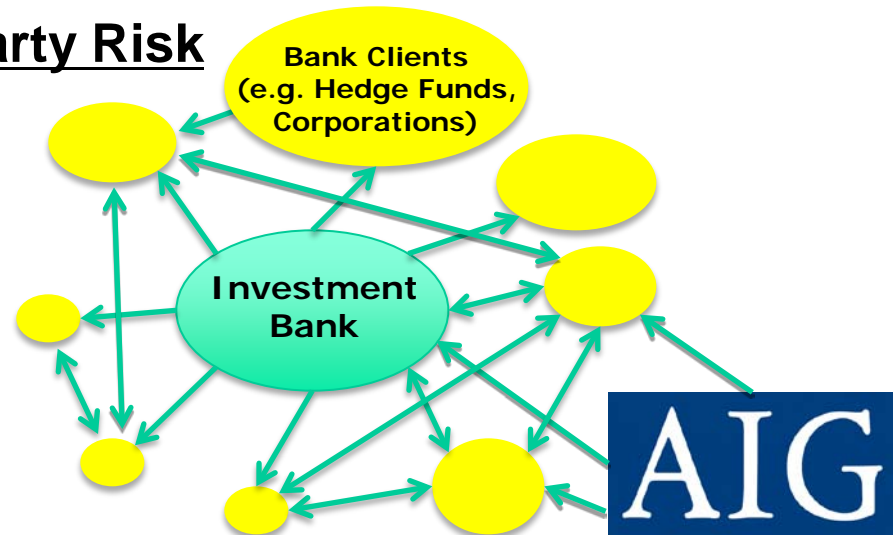
What is Nodal Exchange?

- New cash-settled electric power futures exchange
- Launched April 8th, 2009
- Providing ability to trade ~1,800 hubs, zones, and nodes across five RTOs/ISOs: ISO-NE, NYISO, PJM, MISO and CAISO
- Rolling four years on 88 locations, one year on all others
- Two platforms: auction and over-the-counter (OTC) negotiated transactions (e.g., broker) submission for clearing
- Auctions held daily
- Central counterparty cleared market for all transactions through LCH.Clearnet
- Value-at-Risk (VaR) based margining methodology providing substantial efficiencies for portfolios relative to SPAN margining
- All margining based on Nodal Exchange positions; not bids

Why not just regulate credit default swaps?

Counterparty Risk

- The AIG bailout wasn't about credit default swaps, it was about the **counterparty risk**
- “I view derivatives as time bombs, both for the parties that deal in them and the economic system... Unless derivatives contracts are collateralized or guaranteed, their ultimate value also depends on the creditworthiness of the counter-parties to them ... ”
 - *Warren Buffett, 2002*
Berkshire Hathaway Annual Report



Proposed Solution:

Centrally Clear as many derivatives as possible taking the risk out of the counterparties to a deal, and placing it in the hands of a regulated independent central clearinghouse

Clearing more derivatives is a global objective, not just the US government's

The G-20 Leaders in September 2009 concurred that:

- “All standardized OTC derivative contracts should be traded on exchanges or electronic trading platforms, where appropriate, and cleared through central counterparties by end-2012 at the latest.”
- “OTC derivative contracts should be reported to trade repositories.”
- “Non-centrally cleared contracts should be subject to higher capital requirements.”

Congress and the Administration are working toward achieving these goals in the United States

**Legislation may result in some grey areas in definitions;
showing good faith efforts to clear may be wise**

Clearly Standard	Sufficiently Standardized?	Clearly Non-standard
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Major Swap Participant	Major Swap Participant?	Not a Major Swap Participant
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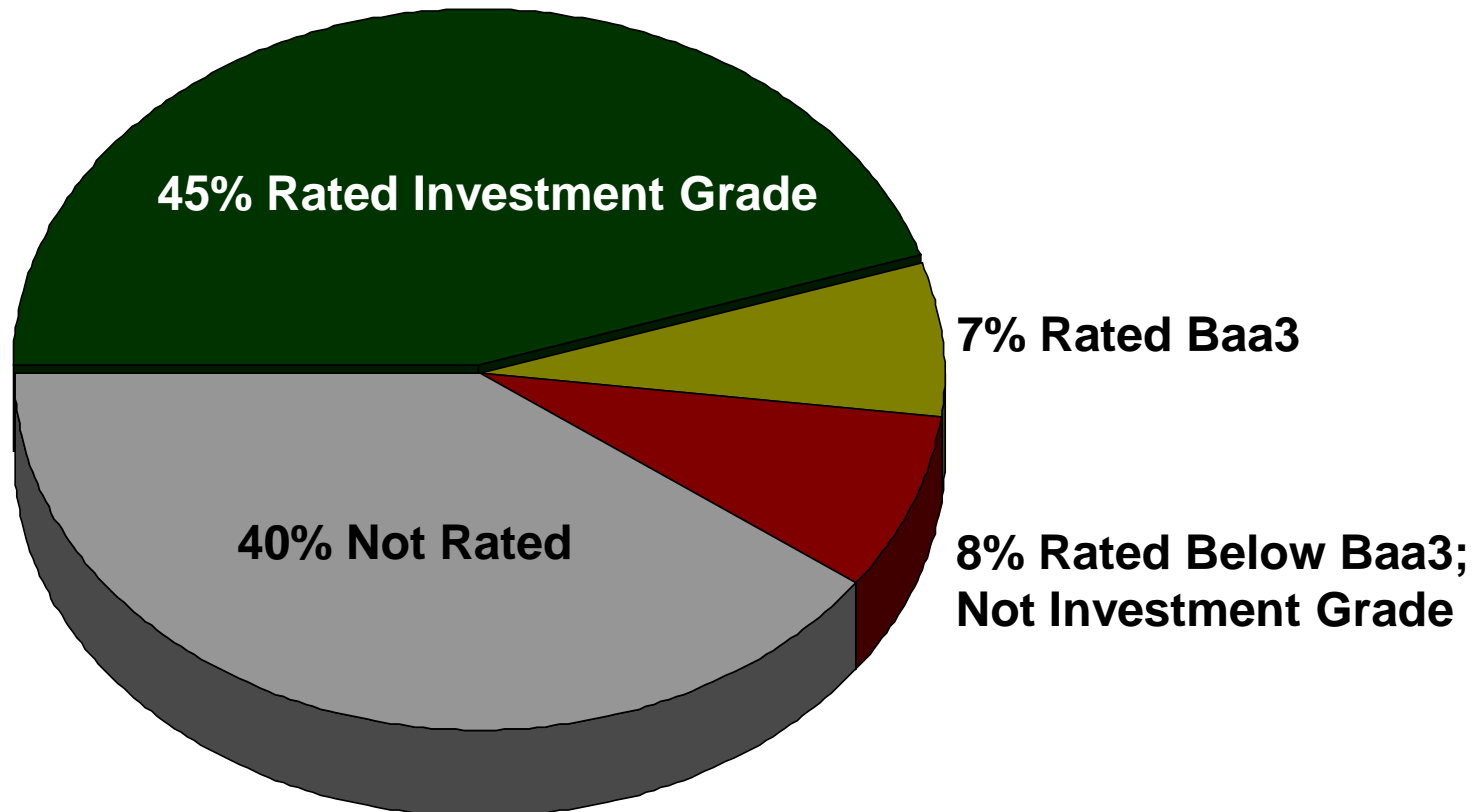
Speculating	Hedging?	Hedging
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Regardless of government mandate, there are benefits to clearing power transactions

- 1. Access to a wider range of market participants resulting in greater liquidity and better pricing**
- 2. Eliminates need to manage and monitor counterparty risk, including credit downgrades**
- 3. Total transaction cost, including default risk, is often lower than bilateral transactions that are not cleared**
- 4. Clearing allows netting of positions across the portfolio, freeing capital that may be tied up**

1. Cleared markets provides access to more counterparties

Top 50 FTR Participants (Representing 95% of Volume)



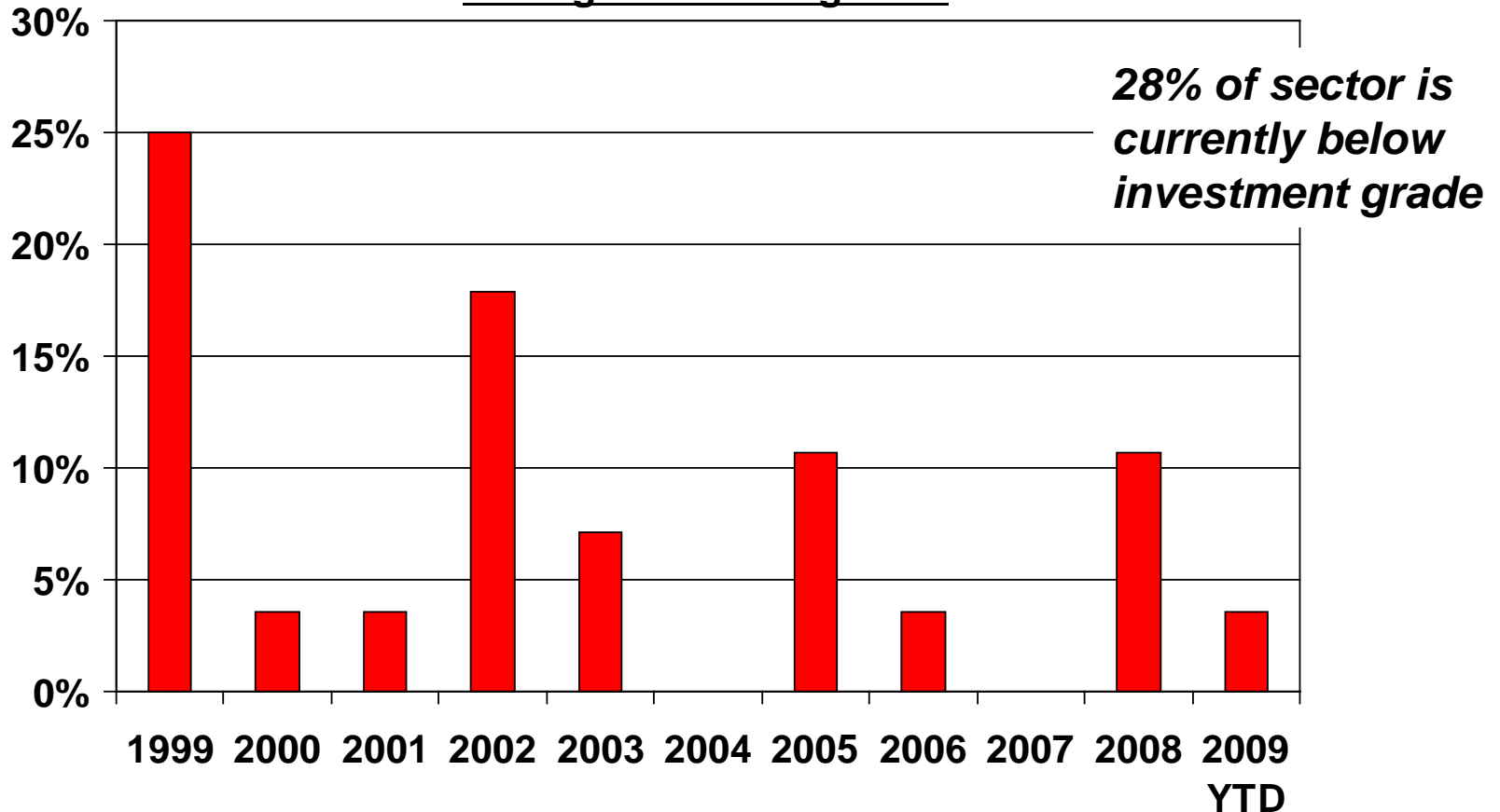
Access to more counterparties results in better terms

- “Companies that are able to identify and manage commodity risks effectively through dynamic hedging programs...are viewed more favorably than those that do not hedge.”
- “A number of large financial institutions have decided to exit the commodity trading markets”
- “Given the recent spate of counterparty exits, we believe that utilities will have fewer counterparties with which to trade”
- “The terms...may become more onerous than exist today”

Quotes taken from Moody's Utility Outlook January 2009

2. Clearing avoids managing rating downgrades which can happen quickly, in large numbers and unexpectedly

% of Companies in Merchant Wholesale Power Sector
Downgraded During Year



Source: Moody's; tracking of 28 companies listed as the merchant wholesale power sector with significant merchant energy/commodity trading/non-regulated activity in Moody's Special Comments Report October 2008

3. Transaction costs should include default risk

- Clearing requires margining in order to cover potential costs of defaults: Defaulter pays not the viable surviving entities
- Choosing to conduct bilateral transactions without similar margining/collateral levels exposes company to default risk
- Estimated average cost from counterparty defaults in bilateral transaction not cleared: 84 basis Points
 - more than the estimated costs of clearing in total
 - *Committee of Chief Risk Officers (CCRO)*
“Market Clearing in the Energy Industry”
February 2006

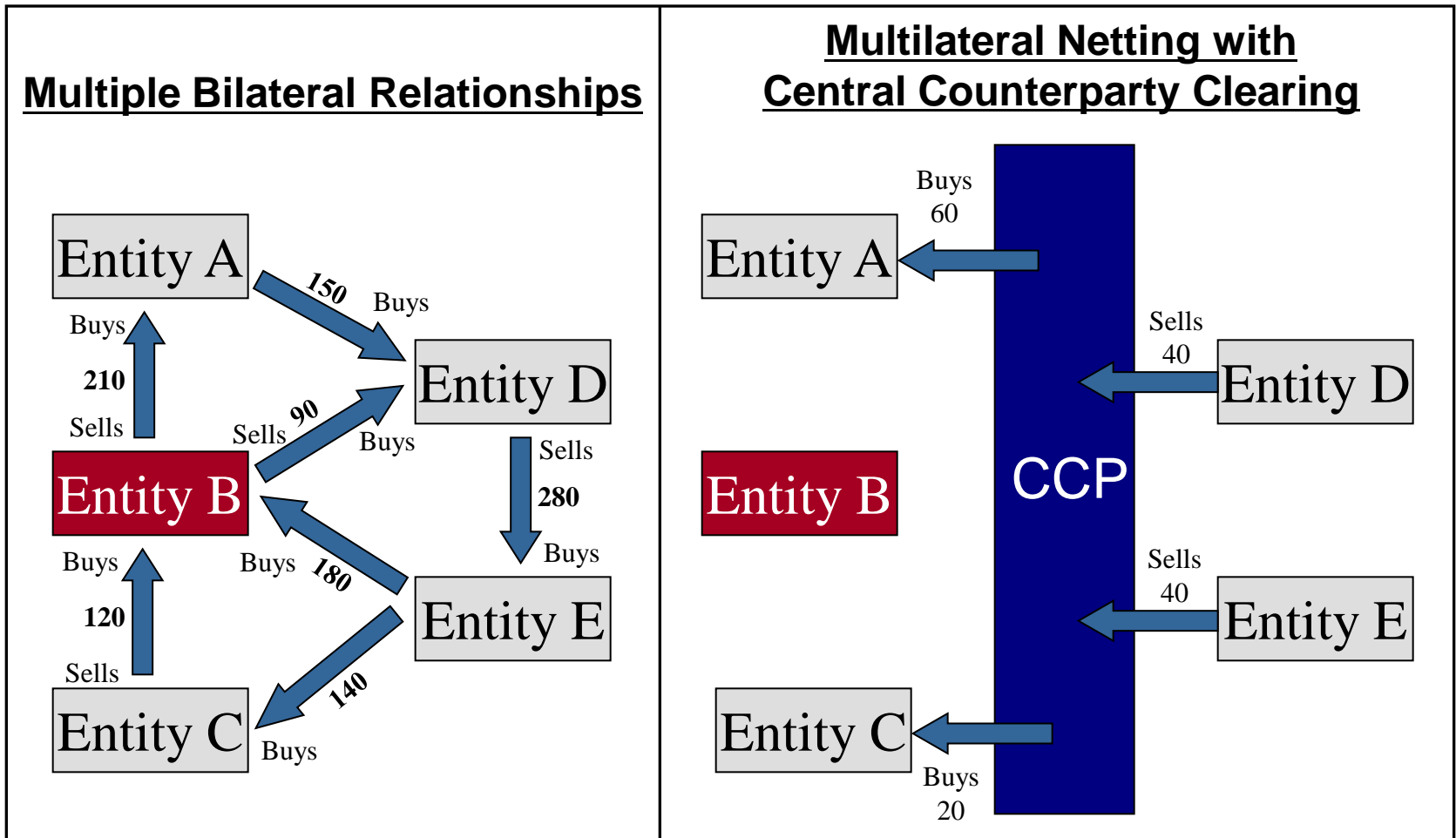


Category 5 Hurricanes can hit New Orleans; building a stronger levee system costs more in the short term, but less in the long term

Those involved in the April sinking of the Deepwater Horizon oil rig may now wish they had spent more to manage risk



4. Clearing allows participants to efficiently net across positions, reducing exposure and required collateral



Background: Role of FTRs

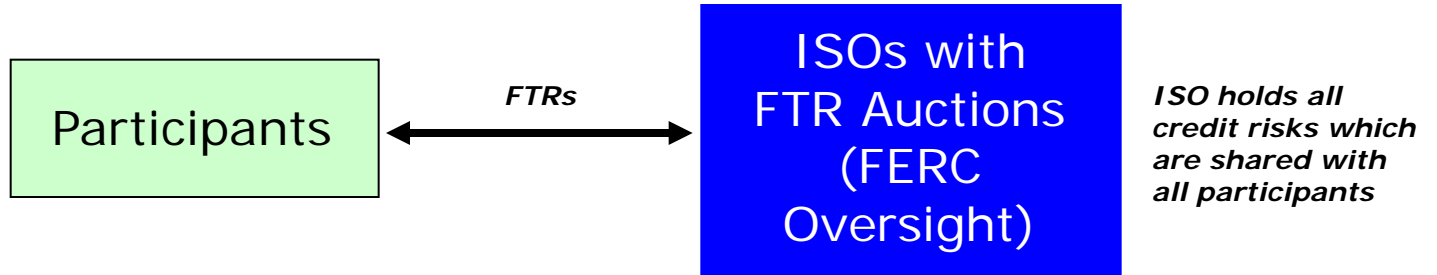
- An FTR is a financial instrument that entitles the holder to receive compensation for certain congestion-related transmission charges that arise when the grid is congested and differences in locational prices result from the redispatch of generators out of merit order to relieve that congestion
- FTR auctions provide a way for the RTO/ISO to pre-sell the congestion they will collect on the network via financial instruments that give participants the right to collect congestion revenues along a particular path
- **FTR auction markets exist for two purposes:**
 - Congestion revenue distribution and
 - Providing RTO/ISO market participants the ability to hedge congestion

Background: Clearing versus RTO/ISO Credit Management

- Clearing through an exchange
 - Novation by one central counterparty
 - Margining: initial and variation on positions held
 - Effectively eliminates default/counterparty risk
- RTO/ISO credit management
 - Bid collateral and initial collateral at time of award
 - Default risk shared by all trading participants
 - Exel/Poweredge default in PJM: \$74MM counterflow portfolio resulted in higher payments than expected and left the RTO with a \$52MM default in an annual auction with \$448MM in revenues
 - Lehman default in PJM was also significant: \$18MM

Potential scenario for central counterparty clearing of FTRs

FTR auctions continue as usual:



Participants have option to clear:

