**Risk management class reading notes**

**Paper: Financial crisis inquiry commission**

1. The role of Wall Street firms changed:

The very nature of many Wall Street firms changed—from relatively staid private partnerships to publicly traded corporations taking greater and more diverse kinds of risks. By 2005, the 10 largest U.S. commercial banks held 55% of the industry’s assets, more than double the level held in 2009. On the eve of the crisis in 2006, financial sector profits constituted 27% of all corporate profits in the United States, up from 15% in 1980. Understanding this transformation has been critical to the Commission’s analysis.

2. The paper conclude that the financial crisis was avoidable

* The crisis was the result of human action and inaction
* our financial system ignored warnings and failed to question, understand, and manage evolving risks within a system essential to the well-being of the American public.
* **Warning signs**: There was an explosion in risky subprime lending and securitization, an unsustainable rise in housing prices, widespread re- ports of egregious and predatory lending practices, dramatic increases in household mortgage debt, and exponential growth in financial firms’ trading activities, unregulated derivatives, and short-term “repo” lending markets, among many other red flags. **EXAMPLE:** The prime example is the Federal Reserve’s pivotal failure to stem the ow of toxic mortgages, which it could have done by setting prudent mortgage-lending standards.

3. We conclude widespread failures in financial regulation and supervision proved devastating to the stability of the nation’s financial markets.

* **Example:** the Securities and Exchange Commission could have required more capital and halted risky practices at the big investment banks;
* regulators continued to rate the institutions they oversaw as safe and sound even in the face of mounting troubles, often downgrading them just before their collapse.

4. We conclude dramatic failures of corporate governance and risk management at many systemically important financial institutions were a key cause of this crisis.

5. We conclude a combination of excessive borrowing, risky investments, and lack of transparency put the financial system on a collision course with crisis.

6. We conclude the government was ill prepared for the crisis, and its inconsistent response added to the uncertainty and panic in the financial markets.

7. We conclude there was a systemic break down in accountability and ethics.

**Conclusion**

1. To pin this crisis on mortal flaws like greed and hubris would be simplistic

2. Second, we clearly believe the crisis was a result of human mistakes, misjudgments, and misdeeds that resulted in systemic failures for which our nation has paid dearly.

8. We conclude collapsing mortgage-lending standards and the mortgage securitization pipeline lit and spread the flame of contagion and crisis.

**CDO: collateralized debt obligations**

9. We conclude the over-the-counter derivatives contributed significantly to this crisis. OTC derivatives contributed to the crisis in three significant ways:

* one type of derivative—credit default swaps (CDS)—fueled the mortgage securitization pipeline.
* CDS were essential to the creation of synthetic CDOs
* when the housing bubble popped and crisis followed, derivatives were in the center of the storm.

10. We conclude the failures of credit rating agencies were essential cogs in the wheel of financial destruction.

**Three competing views: capital availability and excess liquidity, the role of Fannie Mae and Freddie Mac (the GSEs), and government housing policy.**

* Excess liquidity: this paper pointed out that the excess liquidity did not need to cause a crisis
* The GSEs contributed to the crisis, but not the primary cause.
* This paper concludes the CRA (housing policy) was not a significant factor in subprime lending or the crisis.

**Measuring and marking counterparty risk**

1. Counterparty risk: is the risk that a party to an OTC derivatives contract may fail to perform on its contractual obligations, causing losses to the other party

2. Counterparty risks are bilateral – ie, both parties may face exposures depending on the value of the positions they hold against each other.

3. Definitions

* *Counterparty exposure* is the larger of zero and the market value of the portfolio of derivative positions with a counterparty that would be lost if the counterparty were to default and there were zero recovery
* *Current exposure* (CE) is the current value of the exposure to a counterparty.
* *Potential future exposure* (PFE) is the maximum amount of exposure expected to occur on a future date with a high degree of statistical confidence.
* The peak of PFE(t) over the life of the portfolio is referred to as maximum potential future exposure (MPFE)
* *Expected exposure* (EE) is the average exposure on a future date.
* The EE(*t*) curve is referred to as the ‘credit-equivalent’ or ‘loan-equivalent’ exposure curve, and is used for credit pricing and for the calculation of the economic capital of well-diversified portfolios of counterparties.
* *Expected positive exposure* (EPE) is the average EE(*t*) for *t* in a certain interval (for exam- ple, for *t* during a given year).
* *Right-way/wrong-way exposures* are exposures that are positively/negatively correlated with the credit quality of the counterparty.
* E.g. A company writing put options on its own stock creates wrong-way exposures for the buyer. An oil producer selling oil in a swap creates right-way exposures for the buyer.
* *Credit risk mitigants* are designed to reduce credit exposures. They include netting rights, collateral agreements, and early settlement provisions.

**PFE models:**

**Simulation engine**

1. Interest rates in developed economies are often modeled as normal or lognormal diffusion processes.