Credit Default Swaps and the Financial Crisis: "Interconnectedness" and Beyond*

Hearing on *The Role of Credit Derivatives in the U.S. Economy*

U.S. House Committee on Agriculture

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Written Testimony of:

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I. Introduction

Mr. Chairman and members of the Committee, thank you for the invitation of October 9 to testify before the Committee. My name is Henry Hu and I hold the Allan Shivers Chair in the Law of Banking and Finance at the University of Texas Law School. My testimony reflects preliminary personal views and does not represent the views of my employer or any other entity. I ask that my written testimony also be included in the record.

At its economic core, the typical "cash-settled" credit default swap involves a bet between two parties on the fortunes of some referent third party. The "protection buyer" on the swap may be concerned (e.g., if the buyer had lent money to the third party) or simply skeptical (e.g., if the buyer wished to speculate) as to the plight of the third party. For a fee (or stream of fees), the "protection seller" of the swap will pay the buyer cash upon a specified disaster befalling the third party, the amount based on the severity of the disaster and the size of the bet (i.e., the size being measured by the "notional amount"). A derivatives dealer (typically a major financial institution) stands ready to enter into either side of such bets–such privately negotiated two-party contracts–with its customers. The customers are hedge funds, banks, insurance companies, and others in the wholesale capital markets. Dealers may also enter into such swaps with other dealers.

The market for these privately-negotiated contracts, for this segment of the "OTC derivatives" market, has grown rapidly, at least until recently. At mid-year 2008, the notional amount of credit default swaps outstanding was $54.6 trillion.[1] As with other OTC derivatives,

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[1] *See, e.g.,* Darrell Duffie & Henry T. C. Hu, *Competing for a Share of Global Derivatives Markets: Trends and Policy Choices for the United States*, draft available at http://ssrn.com/abstract=1140869; *ISDA Mid-Year 2008 Market Survey Shows Credit Derivatives at $54.6 Trillion*, ISDA News Release, Sept. 24, 2008.

these contracts helped customers address their risk management and other objectives in ways custom-tailored to each customer's specific needs.

The role of credit default swaps in the current financial crisis has become a matter of public debate. The immediate responses have largely focused on the substantive aspects of "interconnectedness" problems, through mechanisms such as clearinghouse arrangements to limit credit exposures among the web of participants in this market.[2]

I would like to discuss three themes, albeit very briefly because of time constraints and because the below-footnoted sources offer closer analysis:

> (1) While the substantive reduction of credit exposures is worthwhile, there must also be independent measures to significantly enhance disclosures as to the web of relationships in credit default swap and other OTC derivatives markets.[3] A near-real time "data clearinghouse" for OTC derivatives activities may be needed. *(Part II)*
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> (2) There are structural reasons why "sophisticated" financial institutions may misunderstand–or may act as if they misunderstand–the risks of the derivatives they offer.[4] If such decisionmaking errors threaten the survival of the dealer itself, a request for governmental intervention will not be far behind. *(Part III)*
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> (3) How credit default swaps are sometimes used can undermine the soundness of the corporations referenced in the swaps and, if bankruptcy occurs, proper reorganization.[5] (This is even after leaving aside entirely the fraud and manipulation issues being investigated by the SEC.) What can be termed "debt decoupling," through

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[2] I leave aside the Securities and Exchange Commission, with its focus on fraud and manipulation, and New York State, with its focus on the need to protect insurance policyholders. *See* Jesse Westbrook & David Scheer, *SEC chief demands credit swap regulation*, Globe & Mail (Canada), Sept. 24, 2008, at B14; Raymond J. Lehmann, *New York Moves to Define Some Swaps as Insurance*, BestWire, Sept. 23, 2008.

[3] *See, e.g.,* Henry T C. Hu, *Misunderstood Derivatives: The Causes of Informational Failure and the Promise of Regulatory Incrementalism*, 102 YALE LAW JOURNAL 1457, 1503-1509 (April 1993) [hereinafter Hu, *Misunderstood Derivatives*]; Henry T. C. Hu & Bernard Black, *Debt, Equity and Hybrid Decoupling: Governance and Systemic Risk Implications*, 14 EUROPEAN FINANCIAL MANAGEMENT 663, 693 (September 2008), draft available at http://ssrn.com/abstract=1084075 [hereinafter Hu & Black, *EFM - Decoupling*],

[4] *See, e.g.,* Hu, *Misunderstood Derivatives*, *supra* note 3 at 1476-95; *Hedge Fund Operations, Hearing Before the Committee on Banking and Financial Services*, U.S. House of Representatives, Oct. 1, 1998 (testimony of Henry T. C. Hu) (relating collapse of hedge fund Long Term Capital Management to thesis of *Misunderstood Derivatives*).

[5] *See, e.g.*, Henry T. C. Hu & Bernard Black, *Equity and Debt Decoupling and Empty Voting II: Importance and Extensions*, 156 UNIVERSITY OF PENNSYLVANIA LAW REVIEW 625 (January 2008), available at http://ssrn.com/abstract=1030721; Hu & Black, *EFM - Decoupling*, *supra* note 3.

such swaps and through securitization, may not only undermine the health of individual corporations, but affect the soundness of the financial system as a whole. *(Part IV)*

II. Interconnectedness: The Likely Need for a "Data Clearinghouse"

"Interconnectedness" issues related to credit default swaps deserve the attention they are getting. A decline in a major derivatives dealer's creditworthiness may undermine the financial soundness of the counterparties relying on that dealer's swaps. The deterioration in the creditworthiness of such "first generation" counterparties would affect their ability to meet their obligations on the "second generation" credit default swaps *they* may have separately entered into. And so on. Linkages among widely disparate participants in the worldwide wholesale capital markets are created.

Regulatory and private responses have largely focused on the substantive matter of reducing the exposures associated with this web of transactions. The federal government did intervene as to Bear Stearns Companies, Inc. ("Bear Stearns") and American International Group, Inc. ("AIG") in large part because of the especially important roles they had as dealers in credit default swap derivatives.[6] With the strong encouragement of the Federal Reserve Bank of New York, various private efforts are on-going to try to centralize clearing and reduce the web of dependencies among credit default swap participants.[7] The International Swaps and Derivatives Association, the main industry trade association, has played an active risk-reducing role as well, particularly with respect to the mechanics of settling credit default swap payouts, including those associated with the Fannie Mae and Lehman "credit events."

Independent, comprehensive measures to enhance disclosures as to credit default swaps and other OTC derivatives, would be helpful. Each OTC derivatives contract is individually negotiated and not required to be disclosed to any regulator, much less to the public generally. No one regulator knows, on a real-time basis or not, entity-specific exposures, the ultimate resting places of the credit, market, and other risks associated with OTC derivatives, or some of the other important facets of the "web of dependencies" created by OTC derivatives.

The disclosure situation as to credit default swaps may be particularly deficient. The best source of statistical information as to OTC derivatives generally is the "BIS Triennial Survey" issued by the Bank for International Settlements (BIS), based on polls of derivatives dealers that are conducted by 54 central banks and monetary authorities. These periodic surveys are

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[6] *See, e.g.,* Nelson D. Schwartz, & Julie Creswell, *What Created This Monster?*, N.Y. Times, Mar. 23, 2008, Bus. Sec., at 1 (quoting a prominent securities analyst as saying that the Bear Stearns rescue "was 100 percent related to credit default swaps"); Justin Fox, *Why the Government Wouldn't Let AIG Fail*, at http://www.time.com/time/printout/0,8816,1841699,00.html (Sept. 25, 2008) (noting government's "biggest fears" as to the consequences of AIG's failure had to do with credit default swaps).

[7] *See, e.g.,* Serena Ng & Gregory Zuckerman, *Electronic Exchange For CDSs Is Proposed*, Wall St. J., Oct. 7, 2008, at C2; Jeremy Grant Anuj Gangahar, *New attempt to set up swaps initiative*, Fin. Times, Oct. 10, 2008, at 23.

available from 1998 to 2007. However, the BIS Triennial Surveys do not even cover turnover in credit derivatives, much less the far more detailed, real-time information needed to properly assess the web of dependencies.

Other sources provide information at a granularity similar to the BIS surveys. The best official U.S. statistics on credit derivatives are probably those that come from the Office of the Comptroller of the Currency. Those statistics focus on the activities of U.S. commercial banks–a category that, for instance, excludes the activities of the AIG. ISDA's market surveys of credit default swaps (and interest rate derivatives and OTC equity derivatives) are conducted twice a year and rely on voluntary participation–although, as to the June 30, 2008 survey, ISDA notes that "all major derivatives houses provided responses."

Clearinghouse and/or any associated exchange trading of credit derivatives will no doubt improve transparency as to transactions that are comprehended by the applicable systems. I have not had the opportunity to look at the limited public information as to these on-going matters. However, there will still presumably remain an OTC credit derivatives market and many transactions that are not funnelled into the systems. Moreover, I am not currently aware of other types of OTC derivatives being subject to such proposed arrangements.

There is likely a need is for a "data clearinghouse" for OTC derivatives: centralized, comprehensive, near-real time disclosure of OTC derivative transactions, in some standardized and retrievable computerized form. Perhaps BIS would be an appropriate entity to serve as such a data clearinghouse. But determining what details to precisely require of OTC derivatives market participants as to the transactions they enter into, how close to "real-time" such disclosures should be made, what regulatory access and non-regulatory access there should be to such disclosures, and what processing of the information submitted to the data clearinghouse should be undertaken are some of the issues that need to be subject to careful benefit/cost analysis. Such a data clearinghouse may help provide advance notice to regulators of possible entity-specific or system-wide problems and early remediation. Should problems actually arise, this data clearinghouse can contribute materially to the informational predicate for proper regulatory responses to such problems.

III. Financial Institution Decisionmaking Errors

In my 1993 *Yale Law Journal* article "Misunderstood Derivatives," I suggested that there were a variety of structural reasons to believe that even sophisticated financial institutions will make mistakes with respect to derivatives and other complex financial products. For example, certain "cognitive biases" can undermine the models developed by rocket scientists. Additionally, the compensation structure in derivatives units, and the complexity of some products may overwhelm normal "internal" and "external" corporate governance mechanisms for deterring inappropriate behavior.

There is insufficient public information at the moment to determine whether some of these structural reasons undermined AIG's decisionmaking with respect to credit derivative swaps. But some of the evidence available thus far suggests that these are matters worth pursuing.

For instance, one of the cognitive biases undermining derivatives models is the tendency to ignore low probability catastrophic events. Psychologists theorize that individuals do not worry about an event unless the probability of the event is perceived to be above some critical threshold. The effect may be caused by individuals' inability to comprehend and evaluate extreme probabilities, or by a lack of any direct experience. This effect manifests itself in attitudes towards tornados, safety belts, and earthquake insurance. My 1993 article indicated that in the derivatives context, financial rocket scientists are sometimes affirmatively encouraged, as a matter of model design, to ignore low probability states of the world.

Certain public AIG statements are arguably consistent with the operation of this cognitive bias, though they do not necessarily prove the existence of the bias. For example, in August 2007, the head of the AIG unit responsible for credit default swaps stated:

> It is hard for us, without being flippant, to even see a scenario within any kind of realm of reason that would see us losing one dollar in any of those [credit default swap] transactions.[8]

Similarly, AIG's Form 10-K for 2006 stated:

> The threshold amount of credit losses that must be realized before AIGFP has any payment obligation is negotiated by AIGFP for each transaction to provide that the likelihood of any payment obligation by AIGFP under each transaction is remote, even in severe recessionary market scenarios.

In the derivatives industry, the incentive structure can be highly asymmetric. True success–or the perception by superiors of success–can lead to enormous wealth. Failure or perceived failure may normally result, at most, in job and reputational losses. Thus, there may be serious temptations for the rocket scientist to emphasize the rewards and downplay the risks of particular derivatives activities to superiors, especially as the superiors may sometimes not be as financially sophisticated (and loathe to admit it). Moreover, the material risk exposures on certain derivatives can sometimes occur years after entering into the transaction–given the turnover in the derivatives industry, the "negatives" may arise long after the rocket scientist is gone. The rocket scientist may have an especially short-term view of the risks and returns of his activities. Undesirable behavior can be tempered by disclosure requirements; however but,

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[8] Gretchen Morgenson, *Behind Insurer's Crisis, Blind Eye to a Web of Risks*, N.Y. Times, Sept. 28, 2008, at A1.

among other things, SEC and accounting disclosure requirements have not fully kept up with the derivatives revolution.

I do not know if any of AIG's current or past employees succumbed to any such behavior, by reason of the incentive structure or otherwise. That said, it is a matter that would be worth looking into. According to the testimony of Martin Sullivan, the former CEO of AIG, until 2007, many employees at AIG Financial Products (AIGFP) (the subsidiary generating the losses leading to the AIG bailout) were being paid higher bonuses than he was. The head of AIGFP, Joseph Cassano, apparently made $280 million over the last eight years. And when Mr. Cassano left AIG in February 2008, he was given, among other things, a contract to consult for AIG at $1 million a month.

IV. Uses of Credit Default Swaps Undermining the Health and Reorganization of Corporations

There may be aggressive–but legal–uses of credit default swaps by hedge funds and others that can undermine the soundness of the referent third parties and, if bankruptcy occurs, the reorganization of such parties. In August 2007, I began suggesting that the separation of control rights and economic interest with respect to corporate debt through swaps can cause such problems. This "debt decoupling" analysis has been further developed and I rely on this analysis to illustrate these issues. [9]

Ownership of debt usually conveys a package of economic rights (to receive payment or principal and interest), contractual control rights (to enforce, waive, or modify the terms of the debt contract), other legal rights (including the rights to participate in bankruptcy proceedings), and sometimes disclosure obligations. Traditionally, law and real world practice assume that the elements of this package are generally bundled together. One key assumption is that creditors generally want to keep a solvent firm out of bankruptcy and (apart from intercreditor matters) want to maximize the value of an insolvent firm.

These assumptions can no longer be relied on. Credit default swaps and other credit derivatives now permit formal ownership of debt claims to be "decoupled" from economic exposure to the risk of default or credit deterioration. But formal ownership normally still conveys control rights under the debt agreement and legal rights under bankruptcy and other laws.

There could, for instance, be a situation involving an "empty creditor": a creditor may have the control rights flowing from the debt contract but, by simultaneously holding credit

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[9] For stories on the "debt decoupling" research referenced in footnote 5, *see, e.g., Bankruptcies in America – Waiting for Armageddon*, The Economist, March 27, 2008, at 81-82; Francesco Guerrera, Ben White, & Aline van Duyn, *Derivatives boom raises risk of bankruptcy*, Fin. Times, Jan. 28, 2008, at 13..

default swaps, have little or no economic exposure to the debtor. The creditor would have little incentive to work with a troubled corporation for it to avoid bankruptcy. Indeed, if it holds enough credit default swaps, it may simultaneously have control rights and a *negative* economic exposure. In such a situation, the creditor would have incentives to cause the firm's value to fall. Such "debt decoupling" could also cause problems within bankruptcy proceedings, such as those relating to the allocation of voting power among creditors, without consideration of their true economic exposures.

Because many of the substantive and disclosure matters relating to debt decoupling are beyond the scope of this Committee hearing, I have been especially brief in discussing this aspect of credit defaults swaps.

V. Conclusion

Times are too interesting. In such times, it is difficult to calmly and rationally make public policy, much less public policy that may be foundational for the next several generations.

As for credit derivatives, the issues are complex. They are products that are valuable to corporations, investors, and financial institutions worldwide. OTC credit derivatives, like other OTC derivatives, allow for contracts customized to the individual customer preferences. All derivatives are important to our financial services sector, the third largest sector of the U.S. economy.

On the other hand, there are pressing needs for reform. I have touched on three of the areas which I believe have not received enough attention. Reform efforts in the U.S. generally need to be well-coordinated with efforts in other countries, because of the nature of the financial products and market participants and because of the prospect of unwelcome regulatory arbitrage.

While we are in the early stages of sorting out the financial crisis, including the role of credit default swaps, I think important strides can be made.

Thank you.

Committee on Agriculture
U.S. House of Representatives
Required Witness Disclosure Form

House Rules* require nongovernmental witnesses to disclose the amount and source of Federal grants received since October 1, 2004.

Name: Henry Hu

Address: University of Texas Law School, 727 E. Dean Keeton St., Austin TX 78705

Telephone: (512) 232-1373

Organization you represent (if any): none

1. **Please list any federal grants or contracts (including subgrants and subcontracts) you have received since October 1, 2004, as well as the source and the amount of each grant or contract. House Rules do NOT require disclosure of federal payments to individuals, such as Social Security or Medicare benefits, farm program payments, or assistance to agricultural producers:**

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2. **If you are appearing on behalf of an organization, please list any federal grants or contracts (including subgrants and subcontracts) the organization has received since October 1, 2004, as well as the source and the amount of each grant or contract:**

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Signature: Henry T. C. Hu 10/13/08

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Committee on Agriculture
U.S. House of Representatives
Information Required From Non-governmental Witnesses

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1. **Name:** Henry T.C. Hu

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3. **Business Phone Number:** (512) 232-1373

4. **Organization you represent:** none

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Henry T. C. Hu holds the Allan Shivers Chair in the Law of Banking and Finance at the University of Texas Law School. Interested in modern finance and the law, he has written on such matters as bank and hedge fund behavior and regulation, corporate governance, the "decoupling" of shareholder voting rights from economic ownership, derivatives-related risk management and speculation, financial rationality and sophistication, the global "competitiveness" of U.S. derivatives markets, mutual funds, swaps and other financial innovations, time diversification, and Warren Buffett. The writings have appeared in law reviews (e.g., *Columbia Law Review*, *University of Pennsylvania Law Review*, and *Yale Law Journal*), specialist journals (e.g., *Journal of Applied Corporate Finance*, *Journal of Corporate Finance*, and *Risk*), and newspapers (e.g., *Financial Times* and *New York Times*). In 1996, an exchange-traded index derivative was introduced with the ticker symbol of "HUI" (in recognition of a 1995 derivatives article). Today, the HUI is one of the world's key gold equity indices. One 2006 article offers the first systematic analysis of "equity decoupling" (i.e., the unbundling of rights and obligations normally associated with shares). This article coined the terms "empty voting" and "hidden (morphable) ownership." One 2008 article offers the first systematic analysis of "debt decoupling" (via, e.g., credit default swaps and mortgage-backed securities) and how this can affect not only individual corporations but also international financial stability.

Professor Hu teaches subjects such as corporate law and securities regulation. He has also taught them at Harvard Law School, where he was the Bruce W. Nichols Visiting Professor of Law for the 1997-98 academic year. He was elected to the American Law Institute in 1991, was elected chair of the Association of American Law Schools' Business Associations Section for 1996, and was appointed to the Legal Advisory Board of the National Association of Securities Dealers (now "Financial Industry Regulatory Authority" or "FINRA") in 2000, the NASD's e-Brokerage Committee in 2001, the NASD's Market Regulation Committee in 2006, and the NASDAQ Market Regulation Committee in 2007. In May 2007, he was appointed to the Editorial Board of the Oxford University Press' *Capital Markets Law Journal* and, in September 2008, elected to the Board of Trustees of the Center for American and International Law. He testified before Congress on Long Term Capital Management's collapse and on the New York Stock Exchange going public. He has also testified before the Securities and Exchange Commission on decoupling. Professor Hu holds a B.S. (Molecular Biophysics & Biochemistry), M.A. (Economics), and J.D., all from Yale.

Some Recent Presentations and Publications: "Models and Mayhem: The Current Financial Crisis" (Sept. 29, 2008 talk on the $700 billion federal bailout):

http://realaudio.cc.utexas.edu:8080/asxgen/law/depts/media/Reels/EconomicCrisis.wmv (Copyright (c) 2008 by Henry T. C. Hu. All rights reserved.); "Financial Innovation and International Financial Stability: Certain Aspects" (May 6, 2008 broadcast to the World Bank's Conference on "Secured Transactions and Insolvency"): http://streaming3.worldbank.org/asxgen/LEG/253529/253529.wmv (Copyright (c) 2008 by Henry T. C. Hu. All rights reserved.); Henry T. C. Hu and Bernard Black, Equity and Debt Decoupling and Empty Voting II: Importance and Extensions, 156 *University of Pennsylvania Law Review* 625-739 (2008), http://ssrn.com/abstract=1030721 (analysis in this and the next paper discussed in, e.g., *The Economist*, Mar. 29, 2008); Henry T. C. Hu and Bernard Black, Debt, Equity, and Hybrid Decoupling: Governance and Systemic Risk Implications, 14 *European Financial Management* 663-709 (2008), a draft at http://ssrn.com/abstract=1084075; Darrell Duffie and Henry T. C. Hu, Competing for a Share of Global Derivatives Markets: Trends and Policy Choices for the United States, a draft at http://ssrn.com/abstract=1140869 (related op-ed with Professor Duffie in the May 1, 2008 *Financial Times*); Henry T. C. Hu and Jay Lawrence Westbrook, Abolition of the Corporate Duty to Creditors, 107 *Columbia Law Review* 1321-1403 (2007), http://ssrn.com/abstract=977582; and Henry T. C. Hu and Bernard Black, The New Vote Buying: Empty Voting and Hidden (Morphable) Ownership, 79 *Southern California Law Review* 811-908 (2006), http://ssrn.com/abstract=904004 (discussed in, e.g., the lead front-page story of the Jan. 26, 2007 *Wall Street Journal*).

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