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Should Derivatives Trade Over a Clearinghouse?

Dr. Pansy L. Yang | Executive Director
Fink Center for Finance & Investments

Derivatives were created to reduce risk, but the financial meltdown in the latter part of the recent decade has been attributed, in part, to undue risk created precisely by the use of derivatives. To avoid a repeat of the worst financial crisis since the Great Depression, the Dodd-Frank Wall Street Reform and Consumer Protection Act was passed into law in July. The goal of the Act is to “promote the financial stability of the United States by improving accountability and transparency in the financial system, to end ‘too big to fail’, to protect the American taxpayer by ending bailouts, to protect consumers from abusive financial services practices, and for other purposes.”

While some economists view the Act as insufficient and too broad to achieve its goal, critics say that in fact, more risk is being created with the new legislation. With no fewer than 243 new rules, will the additional rule-making create a safer, better financial environment for all? In this issue of the bulletin, we tackle only a small piece of the Act; the requirement that most derivative trades be routed through clearinghouses.

Craig Pirrong, Professor of Finance at the Bauer College of Business, University of Houston, provides a thorough comparative analysis of the benefits and shortcomings of trading through a clearinghouse and over the counter (OTC). He argues that the view in which a clearinghouse will absolve the risks associated with derivatives is a flawed one, and that while OTC markets are not the perfect solution, there are mechanisms that can be put in place to mitigate some of the problems they face.

Francis Longstaff, Allstate Professor of Insurance and Finance at UCLA Anderson, shares a glimpse of his recent empirical work on how counterparty credit risk affects the pricing of credit default swaps. Six key results emerge, which have important regulatory implications. In particular, the paper finds that proposals to create a central default swap exchange may not actually be as effective as might be anticipated in reducing counterparty credit risk.
The Risks of a Clearing Mandate

Craig Pirrong | Professor of Finance, University of Houston Bauer College of Business

Introduction

The recently enacted Dodd-Frank Act includes an OTC derivatives clearing mandate as a centerpiece. Moreover, the European Commission’s recently tabled proposal to regulate OTC derivatives also incorporates a clearing mandate.

OTC derivatives are widely considered to be a source of systemic risk; regulators including Treasury Secretary Timothy Geithner and CFTC head Gary Gensler argue that OTC derivatives form a dense network of interconnections between large financial intermediaries, and can serve as a channel by which contagion is spread through the financial system. Mandatory clearing through “central counterparties” (“CCPs”) is often advanced as a solution to this problem. Indeed, in Washington clearing often plays the role of deus ex machina in a Greek drama, descending from the heavens to resolve all intractable dilemmas.

This view of clearing as panacea to a fundamentally flawed OTC derivatives market is wrong, and potentially dangerous. Clearing changes the topology of the network of connections between financial firms, but does not eliminate these connections. Moreover, the failure of a clearinghouse would have serious systemic consequences. Furthermore, a strong case can be made that bilateral arrangements heretofore common in OTC markets are efficient for some trades and some traders, due to informational and incentive advantages. Thus, clearing mandates pose a serious risk of failing to achieve their purported goal of reducing systemic risk, and may raise the costs of trading and managing risks through the derivatives markets by forcing the use of institutions with poorer information and incentive properties.

Default Risk Mechanisms in Derivatives Markets

All derivatives contracts are promises, and there is always the risk that the party to a derivatives contract will be financially incapable of honoring its promise. Thus, any derivatives market must adopt mechanisms to price, manage, and allocate the risks of non-performance.

There are two basic alternative means of allocating and managing performance risk. The first is to centralize these functions in a central counterparty, or clearinghouse. The CCP becomes the buyer to every seller and the seller to every buyer; here the CCP absorbs the costs of non-performance by any individual trader.

CCPs perform a variety of functions. Two of the most important are: (1) the setting of standardized margins to collateralize derivatives trades, and (2) allocating the losses that arise from default that are not covered by collateral among the financial institutions that belong to the CCP.

With respect to allocation of default risk, the members of a CCP, which are usually large financial institutions or subsidiaries thereof, absorb the cost of any default by another member. These members make contributions to the CCP guarantee fund, and the CCP can typically call on members to make additional contributions if the default loss exhausts the guarantee fund. Thus, a CCP is like a mutual default risk insurance company in which the risks are allocated among its members.

Default risk pooling can improve the allocation of risk, just as can the pooling of fire risks. In particular, this insurance mechanism increases the likelihood that the party to a derivatives deal will receive the full contractually promised payment. Even if his original counterparty fails to pay, the other CCP members make up the difference. This pooling of default risk mitigates the impact of a default on any one trader or group of traders, and can thereby improve welfare in the same way that pooling of fire risk mitigates the financial impact of a house fire on any one individual. But it must be noted that this risk sharing mechanism results in other financial institutions bearing the costs of another’s default; it is a formalized interconnection between financial institutions, and hence does not eliminate interconnections among systemically important firms.

The second mechanism for managing default risk is bilateral trade, where the original buyer and seller remain at risk to each other’s performance for the life of the contract. This is the way that OTC derivatives markets dominated by large dealer banks operate.

Major dealer banks essentially perform the functions of default risk pricing and allocation in the OTC derivatives markets as currently constituted. Dealer banks evaluate counterparty risk, and negotiate collateral and credit limits with their derivatives counterparties. Moreover, due to their central role in the OTC marketplace, dealer firms bear the bulk of the losses that arise from defaults on derivatives positions—including defaults by other dealers.

A Comparative Analysis of Centralized and Bilateral Default Risk Mechanisms

Legislated clearing mandates are based on a presumption that the dealers perform default risk management, pricing, and allocation functions less effectively than a CCP would. This represents a
damning judgment on the decisions of myriad market participants who weighed the costs and benefits of trading OTC or on exchange, and chose the former; note that the OTC derivative markets grew absolutely, and relative to cleared markets, beginning in the late-1980s. It also begs the question of just why market participants would choose a putatively less efficient mechanism.

There is considerable room to doubt the judgment that bilateral mechanisms are inherently inferior. There are sound economic reasons why major banks are the most efficient counterparties for large volumes of derivatives transactions. Major OTC dealers are financial intermediaries that specialize in collecting and evaluating information about the creditworthiness of their counterparties. As a result, they specialize in evaluating, measuring, monitoring, pricing, managing, and bearing default risk. Indeed, these are all major functions of banks. Derivatives are just one kind of financial claim that can be defaulted against, and the same information and methodologies useful for appraising credit risk in other kinds of defaultable claims, such as loans, is also useful for appraising credit risk in derivatives transactions.

Any analysis of the best institutional mechanism for addressing a particular economic problem is inherently a comparative one. Such a comparative analysis indicates that banks are likely to have advantages over central counterparties, in terms of information and incentives, in managing default risk for some kinds of transactions and transactors.

Most importantly, they likely have better information about counterparty risks than would a CCP. In particular, they are likely to have better information about the risks posed by more complicated, less liquid products, and about the balance sheet risks of their counterparties. Moreover, they typically have more flexibility in using this information to price default risks in a more discriminating way than can a CCP that for institutional and informational reasons typically sets a one-size-fits-all margin.

The issue of balance sheet risk is particularly important. The likelihood of default on a derivatives contract depends not just on the counterparty suffering a large loss on the contract, but also on the financial resources the counterparty has to cover these losses, that is, on the strength of its balance sheet, and the risks of that balance sheet. Large dealer banks specialize in evaluating such risks, and also frequently produce information relevant in evaluating these risks through their other financial dealings with a derivatives counterparty. It can utilize this information in the pricing and collateralization of derivatives deals, and as a consequence, the terms it offers to counterparties will depend on the balance sheet risks they pose, whereas one-size-fits-all CCP margins do not.

Put differently, pricing counterparty risk, like the pricing of any risk, depends crucially on the information available to the participants in a transaction. Dealers are likely to have better information on many risks, and thus can price those risks more effectively than a CCP. This makes dealers less vulnerable to the adverse selection and moral hazard problems that can make mutualized risk sharing—as through a CCP—inefficiently expensive.

CCPs also face incentive problems that dealers do not. Risk sharing through a CCP creates the potential for moral hazard; this is a problem common to all risk pooling mechanisms. Default risk pooling through a CCP makes derivatives contracts fungible in ways that OTC contracts are not, but this fungibility comes at a cost attributable to this moral hazard. Because the costs of default are shared, the incentives to reduce the risk of default are weakened. CCPs take measures to address this moral hazard problem, but these measures are costly, especially in light of the information issues discussed above.

In brief, the trade-offs in derivatives markets are very similar to those in other markets for risk, such as insurance markets. It is well known that when information is perfect and incentive problems are cheap to control, pooling mechanisms (like a CCP) have advantages. It is equally well known that not all risks are pooled because it is inefficiently expensive to do so due to information and incentive problems. That is, in the real world, information and incentive problems can make risk pooling mechanisms more expensive—less efficient—than institutional arrangements with less risk sharing.

An analysis of the derivatives markets demonstrates that these informational and incentive considerations are present in these markets, and provide a plausible explanation for the reliance on bilateral mechanisms to price and allocate counterparty risks. Thus, the presumption underlying clearing mandates—that the OTC derivatives markets are not history’s largest financial markets, but history’s largest financial market failures—is not well grounded in economics.

There are reasons to doubt that market participants are unable to evaluate the costs and benefits of alternative ways of managing performance risk, and hence have to be forced to adopt a (putatively) more efficient clearing
solution. In the aftermath of the collapse of the merchant energy boom in 2002, the credit quality of many major energy trading companies declined precipitously. The previous bilateral arrangements that had dominated the energy market were far more costly in the new environment. Almost immediately, the industry began to shift increasingly to the use of cleared OTC deals, and competing suppliers of clearing services entered the market. At present, there are both a vibrant cleared and bilateral OTC markets, and this development occurred naturally in response to changed economic conditions, without the need for a government mandate.

**Systemic Risk**

The main argument advanced in favor of CCPs is that they will reduce the risk of another financial crisis like that experienced in 2008. Indeed, the more aggressive statements of this argument assert that CCPs eliminate such systemic risks, and claim that OTC derivatives markets pose a particularly acute danger to the stability of the financial system.

These arguments are vastly overstated; systemic risk considerations do not unambiguously favor CCPs. Yes, the failure of a large OTC dealer can be destabilizing due in part to the firm’s interconnections with other financial firms. But the failure of a large CCP would be destabilizing too, for the same reason.

And CCPs can fail. There have been several examples in history. Moreover, in recent history there were cases of near failure that were averted by Federal Reserve interventions that bear more than passing resemblance to interventions to address crises in the OTC derivatives markets, such as during the LTCM episode and the 2008 Financial Crisis.

For instance, the major US derivatives clearinghouses were under considerable stress during the 1987 Crash, and arguably only the intervention of the Federal Reserve prevented a failure of one or more of them. Such an event would have been extremely destabilizing.

Similarly, the collapse of the Hunt silver deal in March, 1980 threatened the solvency of several major brokerage firms and banks that had lent to the Hunts, and the COMEX clearinghouse as well. Again, Fed intervention was instrumental in preventing the development of a full-blown banking crisis.

Recurrences of these events would be even more destabilizing in a world of clearing mandates when a far larger fraction of the far larger derivatives markets are centrally cleared.

When thinking about the effects of mandated clearing on the likelihood of financial crises, it should also be noted that the proponents of clearing mandates have failed to analyze fully how market participants will respond to a clearing mandate. As a result, they have overstated the systemic risk-reducing effects of the mandates.

Most notably, these proponents argue that CCPs will require higher initial margins than is typically the case in OTC transactions. Higher margins effectively reduce the credit exposure—the leverage—inherent in derivatives trades, so mandate advocates claim this will reduce the leverage in the financial system, thereby reducing its vulnerability to shocks.

But this assumes that market participants will not adjust leverage on other margins (no pun intended) in response to the higher margin requirements. In fact, such adjustments are likely to occur in practice. Less credit in derivatives transactions frees up debt capacity that market participants can use take on more leverage in other forms, and they will almost certainly do so. The creditworthy get credit; if one source is foreclosed, they can tap others. This means that clearing mandates will result largely in a substitution of other forms of credit for the credit implicit in derivatives trades. For instance, firms are likely to use their debt capacity to borrow to fund margin deposits.

This is quite common in exchange traded derivatives that are currently cleared. What’s more, this borrowing channel is what threatened to turn both the Hunt silver crash and the Crash of 1987 into broader banking crises that sparked emergency Fed interventions. The belief often expressed by mandate advocates that clearing eliminates systemically important linkages between derivatives markets and the banking system is thus chimerical, and potentially dangerous to the extent that it encourages a false sense of security.

Indeed, the centrality of clearinghouses to the financial infrastructure that the legislation would create means that these institutions would certainly be too big to fail, and therefore present the same kind of policy dilemmas posed by large TBTF dealer banks.

Speaking of TBTF, it is plausible that implicit subsidies have led to excessive growth in OTC derivatives markets, with big banks underpricing performance risk. But this is not a compelling reason to mandate clearing. Large financial institutions will find other ways to exploit TBTF subsidies. This is a problem that must be addressed by reducing subsidies, rather than by mandating specific market infrastructures.
It should also be noted that it is problematic to attribute the refusal of market participants to adopt clearing voluntarily to TBTF subsidies. In the first quarter of the 20th century the Chicago Board of Trade consistently rejected proposals to adopt central clearing, even though its members were not beneficiaries of any TBTF subsidy; CBT members relied instead on bilateral mechanisms that are very similar to those employed in today’s OTC markets. The exchange adopted clearing only when forced to do so by its then-regulator, the Secretary of Agriculture. This suggests that, as I argued earlier, bilateral mechanisms can be more efficient ways of managing, pricing, and allocating performance risk than central clearing.

Improving the OTC Markets

Thus, there are strong economic arguments in favor of reliance on bilateral mechanisms for some derivatives trades. This is not to say that OTC markets could not be improved. The process of replacing and hedging OTC positions in the aftermath of a large default is often chaotic and results in large price moves. A more coordinated process, perhaps including auctions of standardized products, could mitigate these problems. Facilitating industry and regulatory initiatives to reform post-default market mechanisms should receive more attention than they have heretofore.

A Final Thought

In closing, it should be noted that any massive regulatory intervention like a clearing mandate that will completely reshape immense financial markets will be systemic in nature. Any conceptual error or implementation flaw in an all-encompassing market institution could lead to a failure that by definition will have systemic consequences. Congress has, in brief, put all our derivatives eggs in the clearing basket; the European Union is on the verge of doing the same thing. Given the lack of a convincing economic case for the inefficiency of OTC default risk pricing and allocation mechanisms, and indeed the existence of a strong argument favoring their efficiency, a clearing mandate could be the biggest systemic risk of all.

Craig Pirrong is Professor of Finance, and Energy Markets Director for the Global Energy Management Institute at the Bauer College of Business at the University of Houston. He was previously Watson Family Professor of Commodity and Financial Risk Management at Oklahoma State University, and a faculty member at the University of Michigan, the University of Chicago, and Washington University. Pirrong’s research focuses on commodities and commodity derivative pricing; the economics of clearing and settlement; the relation between market fundamentals and commodity price dynamics and the implications of this relation for the pricing of commodity derivatives; derivatives market regulation; commodity market manipulation; and the organization of derivative markets. He has published 35 articles in professional publications and is the author of three books. He has consulted widely with exchanges around the world, and has testified before Congress on energy pricing, and has served as an expert witness in a variety of cases involving derivative markets. He holds a Ph.D. in business economics from the University of Chicago.
During the past several years, counterparty credit risk has emerged as one of the most important factors driving financial markets and contributing to the global credit crisis. Concerns about counterparty credit risk were significantly heightened in early 2008 by the collapse of Bear Stearns, but then skyrocketed later in the year when Lehman Brothers declared Chapter 11 bankruptcy and defaulted on its debt and swap obligations.\(^1\) Fears of systemic defaults were so extreme in the aftermath of the Lehman bankruptcy that Euro-denominated CDS contracts on the U.S. Treasury were quoted at spreads as high as 100 basis points.

Despite the significance of counterparty credit risk in the financial markets, however, there has been relatively little empirical research about how it affects the prices of contracts and derivatives in which counterparties may default. This is particularly true for the $57.3 trillion notional credit default swap (CDS) market in which defaultable counterparties sell credit protection (essentially insurance) to other counterparties.\(^2\) The CDS markets have been the focus of much attention recently because it was AIG’s massive losses on credit default swap positions that led to the Treasury’s $182.5 billion bailout of AIG. Furthermore, concerns about the extent of counterparty credit risk in the CDS market underlie recent proposals to create a central clearinghouse for CDS transactions.\(^3\)

To briefly review, a CDS contract is best thought of as a simple insurance contract on the event that a specific firm or entity defaults on its debt. As an example, imagine that counterparty A buys credit protection on Amgen from counterparty B by paying a fixed spread of, say, 225 basis points per year for a term of five years. If Amgen does not default during this period of time, then B does not make any payments to A. If there is a default by Amgen, however, then B pays A the difference between the par value of the bond and the post-default value (typically determined by a simple auction mechanism) of a specific Amgen bond. In essence, the protection buyer is able to put the bond back to the protection seller in the event of a default. Thus, the CDS contract “insures” counterparty A against the loss of value associated with default by Amgen.\(^4\)

Like interest rate swaps and other fixed income derivatives, CDS contracts are traded in the over-the-counter market between large financial institutions. During the past 10 years, CDS contracts have become one of the largest financial products in the fixed income markets. As of June 30, 2008, the total notional amount of CDS contracts outstanding was $57.325 trillion. Of this notional, $33.083 trillion is with dealers, $13.683 trillion with banks, $0.398 trillion with insurance companies, $9.215 trillion with other financial institutions, and $0.944 trillion with nonfinancial customers.\(^5\)

Early in the development of the CDS market, participants recognized the advantages of having a standardized process for initiating, documenting, and closing out CDS contracts. The chartering of the International Swap and Derivatives Association (ISDA) in 1985 led to the development of a common framework which could then be used by institutions as a uniform basis for their swap and derivative transactions with each other. Currently, ISDA has 830 member institutions. These institutions include virtually every participant in the swap and derivatives markets.

As the central organization of the privately-negotiated derivatives industry, ISDA performs many functions such as producing legal opinions on the enforceability of netting and collateral arrangements, advancing the understanding and treatment of derivatives and risk management from public policy and regulator capital perspectives, and developing uniform standards and guidelines for the derivatives industry.\(^6\)

This paper uses a unique proprietary data set to examine how counterparty credit risk affects the pricing of CDS contracts. Specifically, this data set includes contemporaneous CDS transaction prices and quotations provided by 14 large CDS dealers for selling protection on the same set of underlying reference firms. Thus, we can use this cross-sectional data to measure directly how a CDS dealer’s counterparty credit risk affects the prices at which the dealer can sell credit protection. A key aspect of the data set is that it includes most of 2008, a period during which fears of counterparty defaults in the CDS market reached historical highs. Thus, this data

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\(^1\) Lehman Brothers filed for Chapter 11 bankruptcy on September 15, 2008. During the same month, American International Group (AIG), Merrill Lynch, Fannie Mae, and Freddie Mac also failed or were placed under conservatorship by the U.S. government.

\(^2\) The size of the CDS market as of June 30, 2008 comes from estimates reported by the Bank for International Settlements.

\(^3\) For example, see the speech by Federal Reserve Board Chairman Ben S. Bernanke at the Council on Foreign Relations on March 10, 2009. For an in-depth discussion of the economics of CDS clearinghouse mechanisms, see Duffie and Zhu (2009).

\(^4\) For a detailed description of the characteristics of CDS contracts, see Longstaff, Mithal, and Neis (2005).

\(^5\) Data obtained from Table 4 of “OTC Derivatives Market Activity for the First Half of 2008,” Bank for International Settlements.

\(^6\) This discussion draws on the information about ISDA provided on its website www.isda.org.
Six key results emerge from the empirical analysis. First, we find that there is a significant relation between the credit risk of the dealer and the prices at which the dealer can sell credit protection. As would be expected, the higher the dealer’s credit risk, the lower is the price that the dealer can charge for selling credit protection. This confirms that prices in the CDS market respond rationally to the perceived counterparty risk of dealers selling credit protection.

Second, although there is a significant relation between dealer credit risk and the cost of credit protection, we show that the effect on CDS spreads is relatively small. In particular, an increase in the dealer’s credit spread of 645 basis points only translates into a one-basis-point decline on average in the dealer’s spread for selling credit protection. This small effect is an order of magnitude smaller than what would be expected if swap liabilities were uncollateralized. In contrast, the size of the pricing effect is very consistent with the standard practice among dealers of having their counterparties fully collateralize swap liabilities.

Third, because the Lehman bankruptcy in September 2008 was such a major counterparty credit event in the financial markets, we examine how the pricing of counterparty credit risk was affected by this event. We find that while counterparty credit risk was priced prior to the Lehman bankruptcy, pricing of counterparty credit risk doubled after the Lehman bankruptcy and was adopted by many more CDS dealers. This result is consistent with the widely-held industry view that the Lehman default highlighted the importance of a number of counterparty credit risks that had been largely ignored previously, such as the risk of posted collateral not being segregated or even being rehypothecated, leaving some counterparties with only an unsecured general claim on the bankruptcy estate.

Fourth, we explore whether geography/legal jurisdiction plays a role in the pricing of counterparty credit risk. We find that non-U.S. CDS dealers were less likely to price counterparty credit risk after the Lehman default. This is particularly surprising since U.S. legal protections for clients and counterparties of U.S. dealers (such as hedge funds using the dealer as a prime broker) are generally viewed as being stronger. This result could be consistent with a scenario in which legal and banking reforms in the wake of the financial crisis were expected to be more severe in Europe than in the U.S.

Fifth, we examine whether the CDS dealers with the best credit in the market are able to sell credit protection at a premium during periods of financial distress. This could occur, for example, if there was a “flight to quality” in the credit protection market. We find that the three strongest CDS dealers in the market began to offer credit protection at prices that no longer reflected their counterparty credit risk after the Lehman bankruptcy. Thus, there is some evidence that CDS dealers behave strategically by taking into account their competitive position in the industry while selling credit protection.

Sixth, we study whether the pricing of counterparty credit risk varies across industries. In theory, the default correlation between the firm underlying the CDS contract and the CDS dealer selling protection on that firm should affect the pricing. Clearly, to take an extreme example, no investor would be willing to buy credit protection on Citigroup from Citigroup itself. Similarly, to take a less extreme example, we might expect the pricing of CDS dealers’ credit risk to be more evident in selling credit protection on other financial firms. Surprisingly, we find that counterparty credit risk is priced in the CDS spreads of all firms in the sample except for the financials. One possible explanation for this perplexing result is that the market might anticipate that large CDS dealers could become too large to fail if, but only if, the large financial firms in the CDX index were in danger of defaulting. Since the CDX index includes many large insurers and industrial financing firms such as AIG and GE Capital, this interpretation is very consistent with the actual behavior of the Treasury and its efforts via the TARP program to stabilize the large Wall Street firms making markets in CDS contracts in the wake of the huge losses by AIG and the auto industry.

These results also have many important implications for current proposals to regulate the CDS market. As one example, they argue that market participants may view current CDS risk mitigation techniques such as the overcollateralization of swap liabilities and bilateral netting as largely successful in addressing counterparty credit risk concerns. Thus, proposals to create a central CDS exchange may not actually be effective in reducing counterparty credit risk further.

Francis A. Longstaff is a Certified Public Accountant (CPA) and a Chartered Financial Analyst (CFA). From 1995 to 1998, Professor Longstaff was head of Fixed Income Derivative Research at Salomon Brothers Inc. in New York. Professor Longstaff has also worked in the research department of the Chicago Board of Trade and for Deloitte and Touche as a management consultant.

Many of his valuation models have been used widely on Wall Street and throughout the global financial markets. He has extensive experience as a consultant for many Wall Street firms, mutual funds, hedge funds, commercial banks and other financial institutions, software developers and risk management firms, as well as in litigation support. He is a frequent speaker at practitioner seminars and conferences.

*This article is a condensed version of a joint paper with Naveen Arora (BlackRock) and Priyank Gandhi (UCLA Anderson).
Recent Events

Private Equity Industry Leaders and Academics Gather for First Annual Summit

On October 22nd and 23rd, the Fink Center hosted a select group of private equity limited partners and academics to its first annual Private Equity Summit. “The purpose of the Summit is to identify and discuss key issues facing investors and facilitate a constructive discussion between academics and practitioners,” said Professor Richard Roll, co-chair of the Summit. Industry thought leaders like Fire and Police Pension Commissioners of the City of Los Angeles, Northwestern Mutual Life and the University of California Regents Endowment Fund were represented. Henry Cisneros, former Secretary of the U.S. Department of Housing and Urban Development addressed attendees as the keynote speaker, discussing the role that private equity will have in reinvigorating the global economy. As a member of President Obama’s Debt Reduction Task Force, Mr. Cisneros has a unique vantage point.

“This was the first of an annual event where leading academics and institutional investors gathered to explore the future of private equity. Private equity is a misunderstood asset class and is in fact an important economic stimulant”, said Jonathan Rosenthal of Saybrook Capital, co-chair of the Summit. This year, Professor Morten Sorenson of the Columbia Business School presented the results of a paper titled “Private Equity and Industry Performance”, reflecting a demonstrable correlation between PE investing and improvements in industry performance, including an increase in domestic job creation. Professor Per Stromberg of the Stockholm School of Economics presented his research entitled “Borrow Cheap, Buy High", exploring the relationship of the availability of cheap debt and the use of leverage on buyouts.

“The Summit was a terrific opportunity for practitioners and academics to compare notes,” said Tom Keck, CIO of Stepstone Advisors. “I think each of us is taking away from the discussions new insights into how we think about the private equity market.”

Next year’s event is scheduled for November 3, 2011. To foster an interactive environment, the Summit invitees are selectively chosen to provide a balanced conversation. Please look for more information about the 2011 Private Equity Summit from the Fink Center.
The Fink Center Anderson Student Asset Management Speaker Series

The speaker series is held regularly on Monday evenings starting at 7pm. Leading investment managers are invited to speak to a selective group of MBA students interested in pursuing a career in investment management. Below is the 2010 Fall line-up for the series.

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<td>Efficient Indexing for an Inefficient Market</td>
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<td>November 1</td>
<td>Michael Martin</td>
<td>Founder, MartinKronicle.com</td>
<td>Technical Indicators and Trading Psychology</td>
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<td>November 8</td>
<td>Philip Barach</td>
<td>Co-Founder / President, DoubleLine Capital</td>
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<td>November 15</td>
<td>Michael Halpern</td>
<td>Partner, Dorchester Capital</td>
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<td>November 22</td>
<td>Hanno Lustig</td>
<td>Professor, UCLA Anderson</td>
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<td>November 29</td>
<td>Gary Baierl</td>
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<td>December 6</td>
<td>Grady Smith</td>
<td>Portfolio Manager, Dimensional US Equity Group</td>
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Panelists Tim Recker (Managing Director of Private Equity at the Treasurer of the U.C. Regents), Robin Painter (Co-chair of the Corporate Department and the Private Investment Funds Group at Proskauer Rose LLP), Christopher Farrington (Partner at Centinela Capital Partners)

Keynote Henry Cisneros, Former HUD Secretary in Clinton Administration

David Windreich (MBA ’83)

Marty Murray (MBA ’81)
**Faculty Highlights**

**Professor Mark Grinblatt is Winner of the Goldman Sachs International Award for 2010 Best European Finance Association Meeting**

Mark Grinblatt’s paper “Do Smart Investors Outperform Dumb Investors?” along with co-authors Matti Keloharju and Juhani Linnainmaa, received the Goldman Sachs International Award for best European Finance Association (EFA) Meeting conference paper. The Best Conference Paper Prize is the highest distinction awarded for an academic paper during the Annual Meeting.

The EFA was created in 1974 and is a professional society for academics and practitioners with an interest in financial management, financial theory and its application. EFA serves as a focal point of communication for its members residing in Europe and abroad. This year’s meeting was held in Frankfurt, Germany.

**Professor Liu Yang receives 2010 Financial Management Association Annual Meeting Best Paper in Corporate Finance Award**

Liu Yang’s paper “Private and Public Merger Waves”, joint work with Vojislav Maksimovic and Gordon Phillips at the University of Maryland received the Best Paper in Corporate Finance Award at the 2010 Financial Management Association (FMA) Annual Meeting. The meeting was held in New York City this year. The FMA is a global leader in developing and disseminating knowledge about financial decision making. FMA’s members include academicians and practitioners worldwide.

**Why Does the Treasury Issue TIPS? The TIPS-Treasury Bond Puzzle**

“Why Does the Treasury Issue TIPS? The TIPS-Treasury Bond Puzzle” is a paper by Matthias Fleckenstein, Francis Longstaff, and Hanno Lustig that has recently received quite a bit of press. The paper shows that the price of a Treasury bond and an inflation-swapped Treasury Inflation-Protected Security (TIPS) issue exactly replicating the cash flows of the Treasury bond can differ by more than $20 per $100 notional. Treasury bonds are almost always overvalued relative to TIPS. Total TIPS-Treasury mispricing has exceeded $56 billion, representing nearly eight percent of the total amount of TIPS outstanding.

“To the best of our knowledge, the relative mispricing of Tips and Treasury bonds represents the largest arbitrage ever documented in the financial economics literature,” write the authors. Their results pose a major puzzle to classical asset pricing theory. In addition, they raise the issue of why the Treasury issues TIPS, since in so doing it both gives up a valuable fiscal hedging option and leaves large amounts of money on the table. The paper has been mentioned in the Financial Times, the New York Times, Bloomberg, amongst other news outlets.

**Professor Bhagwan Chowdhry Discusses Financial Access at Birth Campaign on CNN**

Bhagwan Chowdhry appeared on CNN October 18th, 2010 discussing his Financial Access at Birth (FAB) Campaign, which seeks to combat poverty by providing every newborn child in the world with a bank account consisting of $100. The segment can be viewed at the link below. http://www.cnn.com/video/#/video/bestofcnn/2010/10/19/nr.child.banking.cnn

**Professor Hanno Lustig and Francis Longstaff Uncover “Largest Arbitrage Opportunity Ever in the Financial Economics Literature”**

“Why Does the Treasury Issue TIPS? The TIPS-Treasury Bond Puzzle” is a paper by Matthias Fleckenstein, Francis Longstaff, and Hanno Lustig that has recently received quite a bit of press. The paper shows that the price of a Treasury bond and an inflation-swapped Treasury Inflation-Protected Security (TIPS) issue exactly replicating the cash flows of the Treasury bond can differ by more than $20 per $100 notional. Treasury bonds are almost always overvalued relative to TIPS. Total TIPS-Treasury mispricing has exceeded $56 billion, representing nearly eight percent of the total amount of TIPS outstanding.

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**Professor Mark Grinblatt is Winner of the Goldman Sachs International Award for 2010 Best European Finance Association Meeting**

Mark Grinblatt’s paper “Do Smart Investors Outperform Dumb Investors?” along with co-authors Matti Keloharju and Juhani Linnainmaa, received the Goldman Sachs International Award for best European Finance Association (EFA) Meeting conference paper. The Best Conference Paper Prize is the highest distinction awarded for an academic paper during the Annual Meeting.

The EFA was created in 1974 and is a professional society for academics and practitioners with an interest in financial management, financial theory and its application. EFA serves as a focal point of communication for its members residing in Europe and abroad. This year’s meeting was held in Frankfurt, Germany.

**Professor Mark Grinblatt Elected to the Executive Committee of the NBER**

Mark Grinblatt was elected to the executive committee of the National Bureau of Economic Research (NBER), where he also serves on the Board of Directors. The NBER is the nation’s leading nonprofit economic research organization. Founded in 1920, the NBER is a private, nonpartisan research organization dedicated to promoting a greater understanding of how the economy works.

**Professor Liu Yang receives 2010 Financial Management Association Annual Meeting Best Paper in Corporate Finance Award**

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Tim Pennington III (MBA ’66) Receives 2010 Distinguished Eagle Scout Award

The Distinguished Eagle Scout Award is a distinguished service award of the Boy Scouts of America. It is awarded to an Eagle Scout for distinguished service in his profession and to his community for a period of at least twenty-five years after attaining the level of Eagle Scout. Tim’s family were also awarded with the Council’s Heritage Award for their commitment to the community and Boy Scouts of America. Tim was honored at a dinner at the Beverly Wilshire on November 11th in which all the proceeds will go to support the nearly 20,000 young men and women in the youth programs of the Western LA County Council, Boy Scouts of America.
Welcome to our 2010 doctoral students

Kelly Leong
Kelly Leong first became interested in pursuing a PhD in finance when she wrote her undergraduate honors thesis. She is interested in pursuing research in asset pricing, international finance, and derivative valuation.

Rama Malladi
Before joining the PhD program at UCLA Anderson, Rama Malladi was a managing partner of Kubera Investments LLC. During the last 18 years of his career spanning the US, UK and India, he led groups focusing on financial analytics, infrastructure investments advisory, technology solutions and interim management services.

Kelly has worked previously as a research associate in the macroeconomics group at the Federal Reserve Bank of San Francisco and as a consultant designing and developing statistical software for several startups in the Silicon Valley of California. He holds a master of science degree in statistics emphasizing probability and statistical learning from Stanford University.

Xuhua Zhou
Xuhua Zhou joined the doctoral program in finance in 2010 to learn the necessary methodology to conduct proper empirical research in finance. His interests span liquidity-driven market inefficiencies to fundamental equity research.

Kyle Matoba
Kyle Matoba has joined the doctoral program in finance to further develop his interest in the theoretical modeling and empirical analysis of investment and trading strategies. He has recently become interested in using ideas from machine learning theory to examine portfolio selection and has varied other interests in path dependent options, algorithmic trading, hedge funds, and computation.

Kyle has worked previously as a research associate in the macroeconomics group at the Federal Reserve Bank of San Francisco and as a consultant designing and developing statistical software for several startups in the Silicon Valley of California. He holds a master of science degree in statistics emphasizing probability and statistical learning from Stanford University.

Rama Malladi holds the Chartered Financial Analyst, Chartered Alternative Investments Analyst and Financial Risk Manager designations. He earned an MBA from the UCLA Anderson School of Business and Masters in Electrical Engineering from the Indian Institute of Technology (IIT). In addition, he has a Bachelors degree in Electrical Engineering with a first class distinction.

Xuhua has previously worked as an investment banking analyst in New York at RBC Capital Markets focusing on equity-linked products origination. During his tenure there, he worked on a number of convertible debt offerings and other capital markets activities related to equity-linked instruments. He holds a Bachelor’s degree in business administration from Emory’s Goizueta Business School.
The Investment Banking Fellows Program

The Fink Center at UCLA Anderson is proud to announce a new Investment Banking Fellows program. The program is designed to encourage fellows in pursuing a career in investment banking. In addition to their formal recognition as fellows, the selected students will be matched with alumni mentors in the field. These mentors may be drawn from either the U.S. or international investment banking centers. Fellows will receive guidance in interview preparation. They will also have facilitated access to distinguished investment banking professionals who are friends of the Fink Center.

Fellows are expected to participate in the standard investment banking recruiting process through the Career Center, in addition to attending special meetings organized by the program. The final choice of internship is left in each fellow's hands, though the program expects that fellows will choose an internship in investment banking. Applications are encouraged from those with experience in the industry and also from those who are considering entering investment banking for the first time.

Ways To Support the Fink Center

- Serve as a guest speaker at a Fink Center conference or event.
- Sponsor a student scholarship.
- Volunteer to speak to a student organization (e.g. Investment Finance Association, Anderson Student Asset Management, Student Investment Fund).
- Hire an Anderson MBA or MFE as an intern.
- Serve as a guest lecturer for a finance class at Anderson.
- Contribute financially to the Fink Center and the Anderson finance program.
Finance Area Faculty

Antonio Bernardo, Professor
Michael Brennan, Professor Emeritus
Bruce Carlin, Assistant Professor
Bhagwan Chowdhry, Professor
William Cockrum, Adjunct Professor
Stuart Gabriel, Arden Realty Chair
Mark Garmaise, Associate Professor
Robert Geske, Associate Professor
Mark Grinblatt, J. Clayburn LaForce Chair in Management
Francis Longstaff, Allstate Professor of Insurance and Finance
Hanno Lustig, Associate Professor
Marc Martos-Vila, Assistant Professor
Richard Roll, Japan Alumni Chair in Finance
Pedro Santa-Clara, Professor

Eduardo Schwartz, California Chair in Real Estate and Land Economics, Finance Area Chair
Avanidhar Subrahmanyam, Goldyne and Irwin Hearsh Chair in Money and Banking
Geoffrey Tate, Assistant Professor
Walter Torous, Lee and Seymour Graff Professor
Liu Yang, Assistant Professor

The opinions are solely those of our contributors and not necessarily those of anyone else associated with the Fink Center, including the staff, directors, board, and supporters. We welcome letters to the editor (fink.center@anderson.ucla.edu) to be published in the next Bulletin.