B40.3328

PhD Seminar on Credit Default Swaps

Monday, 9:30 a.m.-12:15 p.m., Room Altman

Marti G. Subrahmanyam
msubrahm@stern.nyu.edu
http://people.stern.nyu.edu/msubrahm/
Stern School of Business
New York University
44, West Fourth Street # 9-68
New York, NY 10012
Office Hours: TBD
(212) 998-0348

Course Description: Credit default swaps (CDS) have grown to be a multi-trillion dollar, globally important, market. The academic literature on CDS has grown tremendously over the last decade, and has been analyzed from different perspectives using diverse research methodologies. This development has raised several controversies and open debates. CDS contracts and markets have become a key research topic among financial economists, and a current discussion focus for several regulatory initiatives. This seminar provides an exposure to the salient contributions in the field. The topics covered will be grouped under the following seven sections (1) CDS Market Structure and Regulation, (2) CDS Pricing, (3) CDS, Bond and Equity Markets, (4) CDS and Corporate Finance, (5) CDS and Financial Intermediaries, (6) Sovereign CDS, (7) CDS Indices. In addition to the papers assigned for presentation and detailed discussion in class, an extensive reading list of other related papers and surveys on each topic are also included.

Prerequisite(s): All participants should have taken Financial Theory I, II, and III (B40.2634, B40.2635 and B40.2336) or should have equivalent background. For those who do not have this background, permission of the instructors is required prior to registration for the seminar.

Credit Hours: 1.5

Text(s):

- Patrick Augustin, Marti G. Subrahmanyam, Dragon Yongjun Tang and Sarah Qian Wang (2014), *Credit Default Swaps: A Survey*, Foundations and Trends^{TM} in Finance: Vol. 9: No. 1–2, pp 1-196. http://dx.doi.org/10.1561/0500000040

- Patrick Augustin, Marti G. Subrahmanyam, Dragon Yongjun Tang and Sarah Qian Wang (2015), *Credit Default Swaps: Past, Present, and Future*, Annual Review of Financial Economics: Vol. 8, pp 1-25.

- Selected papers from reading list

Grade Distribution:

Class Presentation	30%
Class Participation	20%
Referee Reports	50%

Course Policies:

- **General**
  - Since the objective of the seminar is to read and understand recent work on CDS and related topics, participants are expected to spend adequate time giving thoughtful attention to the assigned readings before coming to class.
  - A participant nominated in advance will lead the discussion in each seminar session. All participants will have to take responsibility for leading one session each, depending on the size of the class. It is understood that all seminar participants will contribute to the discussion in all sessions.
  - A critique of the paper being presented is required to be turned in soon after the discussion of the paper.
- **Grades**
  - The grade in the seminar will be based on the presentations, participation in the seminar and the written reports.
  - The course grade will be either *Pass* or *Fail*.
- **Assignments**
  - An important requirement of the seminar is a report involving a critical survey of a topic of research in discussed during the semester. An effort should be made to analyze various papers in the area, including, but not limited to, those discussed in the seminar, and identify the central issues.
  - **No late assignments will be accepted under any circumstances**.

Tentative Course Outline:
The weekly coverage might change as it depends on the progress of the class. However, you must keep up with the reading assignments.

Week	Content
Week 1	• CDS Market Structure and Regulation • Reading assignments – Chernov et al. (2013) – Loon and Zhong (2014)* – Duffie et al. (2015) – Loon and Zhong (2016)* – Collin-Dufresne et al. (2017) – Du and Zhu (2017) – Riggs et al. (2018) – Gupta and Sundaram (2014) – Wang et al. (2018)
Week 2	• CDS Pricing • Reading assignments – Duffie (1999)* – Longstaff et al. (2005)* – Bharath and Shumway (2008) – Ericsson et al. (2009) – Zhang et al. (2009) – Bongaerts et al. (2011)* – Arora et al. (2012) – Qiu and Yu (2012) – Bai and Wu (2016)

Continued on next page

Table 1 – *Continued from previous page*

Week	Content
Week 3	• CDS, Bond and Equity Markets • Reading assignments – Blanco et al. (2005)* – Garleanu and Pedersen (2011) – Nashikkar et al. (2011)* – Bai and Collin-Dufresne (2013) – Oehmke and Zawadowski (2015)* – Das et al. (2014)* – Oehmke and Zawadowski (2017)* – Choi and Shachar (2018) – Acharya and Johnson (2007)* – Hilscher et al. (2015)* – Boehmer et al. (2014) – Duarte et al. (2007) – Kapadia and Pu (2012)* – Jorion and Zhang (2007) – Jorion and Zhang (2009) – Friewald et al. (2014)
Week 4	• CDS and Corporate Finance • Reading assignments – Morrison (2005)* – Bolton and Oehmke (2011)* – Campello and Matta (2012) – Fostel and Geanakoplos (2013) – Saretto and Tookes (2013)* – Che and Sethi (2014) – Subrahmanyam et al. (2014b)* – Subrahmanyam et al. (2014a) – Feldhutter et al. (2014)

Continued on next page

Table 1 – *Continued from previous page*

Week	Content
Week 5	• CDS and Financial Intermediation • Reading assignments – Duffee and Zhou (2001)* – Parlour and Plantin (2008)* – Minton et al. (2009)* – Hirtle (2009) – Acharya and Johnson (2010) – Hakenes and Schnabel (2010) – Thompson (2010) – Shan et al. (2014) – Arping (2014)
Week 6	• Sovereign CDS • Reading assignments – Pan and Singleton (2008)* – Longstaff et al. (2011)* – Ang and Longstaff (2013) – Augustin and Tédongap (2016) – Dooley and Hutchison (2009) – Anton et al. (2013) – Acharya et al. (2014)* – Remolona et al. (2008) – Dieckmann and Plank (2011) – Augustin (2018)* – Benzoni et al. (2015)* – Lucas et al. (2014) – Lee et al. (2016)* – Salomao (2013) – Chernov et al. (2017)

Continued on next page

Table 1 – *Continued from previous page*

Week	Content
Week 7	• Index CDS • Reading assignments – Stanton and Wallace (2011)* – Longstaff and Rajan (2008)* – Coval et al. (2009)* – Collin-Dufresne et al. (2012)* – Longstaff and Myers (2014) – Berndt and Obreja (2010) – Longstaff (2010) – Kitwiwattanachai and Pearson (2014) – Seo and Wachter (2018)

References

Acharya, V. V., Drechsler, I. and Schnabl, P. (2014). A pyrrhic victory? - bank bailouts and sovereign credit risk, *The Journal of Finance* **69**(6): 2689–2739.

Acharya, V. V. and Johnson, T. C. (2007). Insider trading in credit derivatives, *Journal of Financial Economics* **84**(1): 110–141.

Acharya, V. V. and Johnson, T. C. (2010). More insiders, more insider trading: Evidence from private-equity buyouts, *Journal of Financial Economics* **98**(3): 500–523.

Ang, A. and Longstaff, F. A. (2013). Systemic sovereign credit risk: Lessons from the u.s. and europe, *Journal of Monetary Economics* **60**(5): 493–510.

Anton, M., Mayordomo, S. and Rodriguez-Moreno, M. (2013). Dealing with dealers: Sovereign cds comovements in europe, *Working Paper* .

Arora, N., Gandhi, P. and Longstaff, F. A. (2012). Counterparty credit risk and the credit default swap market, *Journal of Financial Economics* **103**(2): 280–293.

Arping, S. (2014). Credit protection and lending relationships, *Journal of Financial Stability* **10**: 7–19.

Augustin, P. (2018). The term structure of cds spreads and sovereign credit risk, *Journal of Monetary Economics* **96**: 53–76.

Augustin, P. and Tédongap, R. (2016). Real economic shocks and sovereign credit risk, *Journal of Financial and Quantitative Analysis* **51**(2): 541–587.

Bai, J. and Collin-Dufresne, P. (2013). The cds-bond basis during the financial crisis of 2007-2009, *Working Paper* .

Bai, J. and Wu, L. (2016). Anchoring credit default swap spreads to firm fundamentals, *Journal of Financial and Quantitative Analysis* **51**(5): 1521–1543.

Benzoni, L., Collin-Dufresne, P., Goldstein, R. S. and Helwege, J. (2015). Modeling credit contagion via the updating of fragile beliefs, *Review of Financial Studies* **28**(7): 1960–2008.

Berndt, A. and Obreja, I. (2010). Decomposing european cds returns, *Review of Finance* **14**(2): 189–233.

Bharath, S. T. and Shumway, T. (2008). Forecasting default with the merton distance to default model, *Review of Financial Studies* **21**(3): 1339–1369.

Blanco, R., Brennan, S. and Marsh, I. W. (2005). An empirical analysis of the dynamic relation between investment-grade bonds and credit default swaps, *Journal of Finance* **60**(5): 2255–2281.

Boehmer, E., Chava, S. and Tookes, H. E. (2014). Related securities and equity market quality: The case of cds, *Journal of Financial and Quantitative Analysis* **forthcoming**.

Bolton, P. and Oehmke, M. (2011). Credit default swaps and the empty creditor problem, *Review of Financial Studies* **24**(8): 2617–2655.

Bongaerts, D., De Jong, F. and Driessen, J., J. (2011). Derivative pricing with liquidity risk: Theory and evidence from the credit default swap market, *Journal of Finance* **66**(1): 203–240.

Campello, M. and Matta, R. (2012). Credit default swaps and risk-shifting, *Economics Letters* **117**(3): 639–641.

Che, Y.-K. and Sethi, R. (2014). Credit market speculation and the cost of capital, *American Economic Journal: Microeconomics* **forthcoming**.

Chernov, M., Gorbenko, A. S. and Makarov, I. (2013). Cds auctions, *Review of Financial Studies* **26**(3): 768–805.

Chernov, M., Schmid, L. and Schneider, A. (2017). A macrofinance view of us sovereign cds premiums, *Working Paper UCLA* .

Choi, J. and Shachar, O. (2018). Dealer liquidity provision and the breakdown of the law of one price: Evidence from the cds-bond basis, *Management Science* (Forthcoming).

Collin-Dufresne, P., Goldstein, R. S. and Yang, F. (2012). On the relative pricing of long-maturity index options and collateralized debt obligations, *The Journal of Finance* **67**(6): 1983–2014.

Collin-Dufresne, P., Junge, B. and Trolle, A. (2017). Market structure and transaction costs of index cdss, *Swiss Finance Institute Research Paper Series N. 18-40* .

Coval, J. D., Jurek, J. W. and Stafford, E. (2009). Economic catastrophe bonds, *American Economic Review* **99**(3): 628–66.

Das, S., Kalimipalli, M. and Nayak, S. (2014). Did cds trading improve the market for corporate bonds?, *Journal of Financial Economics* **111**(2): 495–525.

Dieckmann, S. and Plank, T. (2011). Default risk of advanced economies: An empirical analysis of credit default swaps during the financial crisis, *Review of Finance* **16**(4): 903–934.

Dooley, M. and Hutchison, M. (2009). Transmission of the u.s. subprime crisis to emerging markets: Evidence on the decoupling-recoupling hypothesis, *Journal of International Money & Finance* **28**(8): 1331–1349.

Du, S. and Zhu, H. (2017). Are cds auctions biased and inefficient?, *Journal of Finance* **72**: 2589—2628.

Duarte, J., Longstaff, F. A. and Yu, F. (2007). Risk and return in fixed-income arbitrage: Nickels in front of a steamroller?, *Review of Financial Studies* **20**(3): 769–811.

Duffee, G. R. and Zhou, C. (2001). Credit derivatives in banking: Useful tools for managing risk?, *Journal of Monetary Economics* **48**(1): 25–54.

Duffie, D. (1999). Credit swap valuation, *Financial Analysts Journal* **55**(1): 73–87.

Duffie, D., Scheicher, M. and Vuillemey, G. (2015). Central clearing and collateral demand, *Journal of Financial Economics* **116**(2): 237–256.

Ericsson, J., Jacobs, K. and Oviedo, R. (2009). The determinants of credit default swap premia, *Journal of Financial and Quantitative Analysis* **44**(1): 109–132.

Feldhutter, P., Hotchkiss, E. S. and Karakas, O. (2014). The impact of creditor control on corporate bond pricing and liquidity, *Working Paper* .

Fostel, A. and Geanakoplos, J. (2013). Financial innovation, collateral and investment, *Working Paper* .

Friewald, N., Wagner, C. and Zechner, J. (2014). The cross-section of credit risk premia and equity returns, *The Journal of Finance* **69**(6): 2419–2469.

Garleanu, N. and Pedersen, L. H. (2011). Margin-based asset pricing and deviations from the law of one price, *Review of Financial Studies* **24**(6): 1980–2022.

Gupta, S. and Sundaram, R. K. (2014). Inventory effects, the winner's curse, and bid shading in cds auction outcomes, *Journal of Derivatives* **forthcoming**.

Hakenes, H. and Schnabel, I. (2010). Credit risk transfer and bank competition, *Journal of Financial Intermediation* **19**(3): 308–332.

Hilscher, J., Pollet, J. M. and Wilson, M. (2015). Are credit default swaps a sideshow? evidence that information flows from equity to cds markets, *Journal of Financial and Quantitative Analysis* **50**(3): 543–567.

Hirtle, B. (2009). Credit derivatives and bank credit supply, *Journal of Financial Intermediation* **18**(2): 125–150.

Jorion, P. and Zhang, G. (2007). Good and bad credit contagion: Evidence from credit default swaps, *Journal of Financial Economics* **84**(3): 860–883.

Jorion, P. and Zhang, G. (2009). Credit contagion from counterparty risk, *The Journal of Finance* **64**(5): 2053–2087.

Kapadia, N. and Pu, X. (2012). Limited arbitrage between equity and credit markets, *Journal of Financial Economics* **105**(3): 542–564.

Kitwiwattanachai, C. and Pearson, N. D. (2014). The illiquidity of cds market: Evidence from index inclusion, *Working Paper* .

Lee, J., Naranjo, A. and Sirmans, S. (2016). The exodus from sovereign risk: Sovereign ceiling violations in credit default swap markets, *The Journal of Finance* **74**(4): 1813–1856.

Longstaff, F. A. (2010). The subprime credit crisis and contagion in financial markets, *Journal of Financial Economics* **97**(3): 436–450.

Longstaff, F. A., Mithal, S. and Neis, E. (2005). Corporate yield spreads: Default risk or liquidity? new evidence from the credit default swap market, *Journal of Finance* **60**(5): 2213–2253.

Longstaff, F. A. and Myers, B. W. (2014). How does the market value toxic assets?, *Journal of Financial and Quantitative Analysis* **forthcoming**.

Longstaff, F. A., Pan, J., Pedersen, L. H. and Singleton, K. J. (2011). How sovereign is sovereign credit risk?, *American Economic Journal: Macroeconomics* **3**(2): 75–103.

Longstaff, F. A. and Rajan, A. (2008). An empirical analysis of the pricing of collateralized debt obligations, *The Journal of Finance* **63**(2): 529–563.

Loon, Y. C. and Zhong, Z. K. (2014). The impact of central clearing on counterparty risk, liquidity, and trading: Evidence from the credit default swap market, *Journal of Financial Economics* **112**(1): 91–115.

Loon, Y. C. and Zhong, Z. K. (2016). Does dodd-frank affect otc transaction costs and liquidity? evidence from real-time cds trade reports, *Journal of Financial Economics* **119**(1): 645–672.

Lucas, A., Schwaab, B. and Zhang, X. (2014). Conditional probabilities and contagion measures for euro area sovereign default risk, *Journal of Business and Economic Statistics.* **32**(2): 741–758.

Minton, B., Stulz, R. M. and Wiliamson, R. (2009). How much do banks use credit derivatives to hedge loans?, *Journal of Financial Services Research* **35**(1): 1–31.

Morrison, A. D. (2005). Credit derivatives, disintermediation, and investment decisions, *The Journal of Business* **78**(2): 621–648.

Nashikkar, A., Subrahmanyam, M. G. and Mahanti, S. (2011). Liquidity and arbitrage in the market for credit risk, *Journal of Financial and Quantitative Analysis* **46**(3): 627–656.

Oehmke, M. and Zawadowski, A. (2015). Synthetic or real? the equilibrium effects of credit default swaps on bond markets, *Review of Financial Studies* .

Oehmke, M. and Zawadowski, A. (2017). The anatomy of the cds market, *Review of Financial Studies* **Forthcoming**.

Pan, J. and Singleton, K. J. (2008). Default and recovery implicit in the term structure of sovereign cds spreads, *Journal of Finance* **63**(5): 2345–2384.

Parlour, C. A. and Plantin, G. (2008). Loan sales and relationship banking, *The Journal of Finance* **63**(3): 1291–1314.

Qiu, J. and Yu, F. (2012). Endogenous liquidity in credit derivatives, *Journal of Financial Economics* **103**(3): 611–631.

Remolona, E., Scatigna, M. and Wu, E. (2008). The dynamic pricing of sovereign risk in emerging markets: Fundamentals and risk aversion., *Journal of Fixed Income* **17**(4): 57–71.

Riggs, L., Onur, E., Reiffen, D. and Zhu, H. (2018). Swap trading after dodd-frank: Evidence from index cds, *Commodities Futures and Trading Commission Working Paper* .

Salomao, J. (2013). Sovereign debt renegotiation and credit default swaps, *Working Paper* .

Saretto, A. and Tookes, H. E. (2013). Corporate leverage, debt maturity, and credit supply: The role of credit default swaps, *Review of Financial Studies* **26**(5): 1190–1247.

Seo, S. B. and Wachter, J. (2018). Do rare events explain cdx tranche spreads?, *Journal of Finance* **Forthcoming**.

Shan, S. C., Tang, D. Y. and Winton, A. (2014). Do credit derivatives lower the value of creditor control rights?, *Working Paper* .

Stanton, R. and Wallace, N. (2011). The bear's lair: Index credit default swaps and the subprime mortgage crisis, *Review of Financial Studies* **24**(10): 3250–3280.

Subrahmanyam, M. G., Tang, D. Y. and Wang, S. Q. (2014a). Credit default swaps and corporate cash holdings, *Working Paper* .

Subrahmanyam, M. G., Tang, D. Y. and Wang, S. Q. (2014b). Does the tail wag the dog? the effect of credit default swaps on credit risk, *The Review of Financial Studies* **27**(10): 2927–2960.

Thompson, J. R. (2010). Counterparty risk in financial contracts: Should the insured worry about the insurer?, *The Quarterly Journal of Economics* **125**(3): 1195–1252.

Wang, X., Wu, Y., Yan, H. and Zhong, Z. (2018). Funding liquidity shocks in a quasi-experiment: Evidence from the cds big bang, *SSRN Working Paper 2730877* .

Zhang, B. Y., Zhou, H. and Zhu, H. (2009). Explaining credit default swap spreads with the equity volatility and jump risks of individual firms, *Review of Financial Studies* **22**(12): 5099–5131.