NORTHWESTERN UNIVERSITY
Kellogg School of Management

Liquidity and Asset Pricing

Professors Deborah Lucas and Robert Korajczyk Finance 520
Spring 2004

This course will cover the role of liquidity in the pricing of assets. The topics to be discussed will include modeling household and firm demand for liquidity, the effects of trading costs on equilibrium asset returns, collateral, financial institutions, the effect of liquidity on pricing in fixed income markets, market microstructure, and related empirical evidence,.

Most papers for the course can be downloaded from:

http://www.kellogg.nwu.edu/faculty/korajczy/liquidity/

Papers marked with an "*" are likely to be discussed the first week, and should be read before class. Selected additional papers are listed but not required. Required readings for later weeks will be announced later. More readings in all weeks TBA…

Very Preliminary Syllabus and Course Outline

Week 1: Trading Costs, Portfolio Choice and Asset Returns

* Amihud, Yakov, and Haim Mendelson, 1986, Asset pricing and the bid-ask spread, *Journal of Financial Economics* 17, 223-249

* Constantinides, George M., 1986, "Capital market equilibrium with transaction costs" *Journal of Political Economy* 94, 842-862

* Heaton, John and Deborah Lucas, 1992, The effects of incomplete insurance markets and trading costs in a consumption-based asset pricing model, *Journal of Economic Dynamics and Control* 16, 601-620

*Vayanos, Dimitri and Vila, Jean Luc, 1999, Equilibrium Interest Rate and Liquidity Premium With Transaction Costs, *Economic Theory*, 13, 509-539.

Luttmer, Erzo, 1996, "Asset Pricing in Economies with Frictions," *Econometrica*, Vol. 64, No. 6, pp. 1439-1467.

Heaton, John and Deborah Lucas, 1996, "Evaluating the Effects of Incomplete Markets on Risk Sharing and Asset Pricing," *Journal of Political Economy*, 1996

Davis, M. and A. Norman, 1990, “Portfolio Selection with Transactions Costs,” *Mathematics of Operations Research*, 15,676-713

Vayanos, Dimitri, 2004, Flight to Quality, Flight to Liquidity, and the Pricing of Risk, working paper, MIT.

Week 2: Topic 1 continued, and modeling the liquidity demand of firms

Chang-Soo Kim; David C. Mauer; Ann E. Sherman, 1998, “The Determinants of Corporate Liquidity: Theory and Evidence” *The Journal of Financial and Quantitative Analysis*, Vol. 33, No. 3., pp. 335-359.

Stewart C. Myers; Raghuram G. Rajan, 1998, “The Paradox of Liquidity,” *The Quarterly Journal of Economics*, Vol. 113, No. 3. (Aug., 1998), pp. 733-771.

Charles J. Hadlock, 1998, “Ownership, Liquidity, and Investment,” *The RAND Journal of Economics*, Vol. 29, No. 3. (Autumn, 1998), pp. 487-508.

Patrick Bolton; Ernst-Ludwig Von Thadden, 1998, Blocks, Liquidity, and Corporate Control , *The Journal of Finance*, Vol. 53, No. 1., pp. 1-25.

Week 3: The Role of Financial Intermediaries (Including the Government)

Bengt Holmstrom; Jean Tirole, 1998, “Private and Public Supply of Liquidity,” *The Journal of Political Economy*, Vol. 106, No. 1., pp. 1-40.

Douglas W. Diamond, 1997, Liquidity, Banks, and Markets, *The Journal of Political Economy*, Vol. 105, No. 5., pp. 928-956.

Bengt Holmstrom; Jean Tirole, 1996, “Modeling Aggregate Liquidity,” *The American Economic Review*, Vol. 86, No. 2, Papers and Proceedings of the Hundredth and Eighth Annual Meeting of the American Economic Association San Francisco, CA, January 5-7, 1996., pp. 187-191.

Week 4: Collateral and Endogenous Liquidity

Kyotaki, M. and J. Moore, (1997), “Credit Cycles,” *Journal of Political Economy* 105, 211-248

Krishnamurthy, Arvind (2003), “Collateral Constraints and the Amplification Mechanism,” *Journal of Economic Theory, 111(2)*, 277-292.

Bernanke and Gertler, 1989, “Agency Costs, Net Worth and Business Fluctuations,” American Economic Review 79, 14-39

Bernanke, Gertler and Gilchrist, "The Financial Accelerator and the Flight to Quality"

Eisfeldt, Andrea, 2004, "Endogenous Liquidity in Asset Markets," *The Journal of Finance*, Vol. LIX, No. 1

Diamond, D. and P. Dybvig, 1983, "Bank Runs, Deposit Insurance and Liquidity, *Journal of Political Economy* 91, 401-419.

Eichenbaum, M. and S. Rebelo, 2001, " ", *Journal of Political Economy*

Week 5: Liquidity in Fixed Income Markets

Longstaff, F., A. Mithal and E. Neis, 2004, "Corporate Yield Spreads: Default Risk or Liquidity?, working paper, UCLA

Longstaff, F., The Flight-to-Liquidity Premium in U.S. Treasury Bond Prices," 2004, forthcoming, *Journal of Business*

Duffie D. and K. Singleton 1999, "Modeling the Term Structure of of Defaultable Bonds, *The Review of Financial Studies*, 687-720.

Edwin J. Elton; T. Clifton Green, 1998, Tax and Liquidity Effects in Pricing Government Bonds, *The Journal of Finance*, Vol. 53, No. 5., pp. 1533-1562.

Peter DeMarzo; Darrell Duffie, 1999, A Liquidity-Based Model of Security Design, *Econometrica*, Vol. 67, No. 1. , pp. 65-99.

Week 6: Some Microstructure Models

Kyle, Albert S., 1985, Continuous auctions and insider trading, Econometrica 53, 1315-1335.

Glosten, Lawrence R., and Paul R. Milgrom, 1985 Bid, ask and transaction prices in a specialist market with heterogeneously informed traders. *Journal of Financial Economics* **14** 71-100.

Glosten, Lawrence R., and Lawrence E. Harris, 1988, Estimating the components of the bid/ask spread, *Journal of Financial Economics* **21**, 123-142.

Week 7: Empirical Properties of Liquidity/Measuring Liquidity

Hasbrouck, Joel, 1991b, The summary informativeness of stock trades: An econometric analysis, *Review of Financial Studies* **4**, 571-595.

Chordia, Tarun, Richard Roll, and Avanidhar Subrahmanyam, 2000, Commonality in liquidity, *Journal of Financial Economics* **56**, 3-28.

Chordia, Tarun, Richard Roll and Avanidhar Subrahmanyam, 2002, Order imbalance, liquidity, and market returns, *Journal of Financial Economics* **65**, 111-130.

Nelling, Edward F., 1996, The price effects of `shopping the block,' Working paper, Georgia Institute of Technology.

Week 8: Empirical Properties of Liquidity

Breen, William J., Laurie Simon Hodrick, and Robert A. Korajczyk, 2002, Predicting equity liquidity, *Management Science* **48**, 470-483.

Hasbrouck, Joel, and Duane Seppi, 2001, Common factors in prices, order flows, and liquidity, *Journal of Financial Economics* **59**, 383-411.

Korajczyk, Robert A. and Ronnie Sadka, 2004, The dynamics of systematic liquidity, Working paper, Northwestern University.

Week 9: Asset Returns and Liquidity

Brennan, M. J., and A. Subrahmanyam, 1996, Market microstructure and asset pricing: On the compensation for illiquidity in stock returns." *Journal of Financial Economics* **41** 441-464.

Easley, David, Soeren Hvidkjaer, and Maureen O'Hara, 2002, Is information risk a determinant of asset returns?, *Journal of Finance* **57**, 2185-2221.

Amihud, Yakov, 2002, Illiquidity and stock returns: cross-section and time-series effects, *Journal of Financial Market*s **5**, 31-56.

Week 10: Asset Returns and Liquidity

Pástor, Luboš, and Robert F. Stambaugh, 2003, Liquidity risk and expected stock returns, *Journal of Political Economy* **111**, 642-685.

Acharya, Viral V., and Lasse Heje Pedersen, 2003, Asset pricing with liquidity risk, Working paper, New York University.

Sadka, Ronnie, 2003, Momentum, liquidity risk, and limits to arbitrage, Working paper, University of Washington.