

**Spring Term 2017**  
**Doctoral Seminar Analytical Research in Financial Accounting**  
**Applications of Information Economics in Management and Accounting**  
**Ilan Guttman**

**Daily schedule:** 9:15-10:45 – 11:00-12:30 – 13:45-15:15 (*WWZ Building, room S14*)

This seminar develops tools from information economics to study the incentives of, and strategic interactions among: firm insiders, market participants and financial intermediaries. Common to these studies is that agents hold private information that is valuable to other parties. The range of applications includes: voluntary and mandatory disclosure, earnings management, financial analysts and the structure of managerial compensation and performance measures.

**Course Readings:**

- (i) The recommended textbook is “*Contract Theory*” by Bolton and Dewatripont, MIT Press, 2005. (from hereon referenced as BD (2005)).
- (ii) Required reading from the reading lists below are marked with a (\*). The rest of the papers are for students that are interested in the particular topics and for future reference.

**Course Requirements:**

For each of the three days, choose two papers that we will – cover in that day and write a short summary of the paper (overall 6 papers).

In your summary, please address the following questions:

- What is the main research question?
- What is the setting of the model (players, timeline, objective functions and additional assumptions)?
- Which of the assumptions you believe are just simplifying assumptions and which are critical (for either tractability or to obtain the main result)?
- What is the main result of the paper?
- What do you think is the main contribution of the paper (to the extent that you know the preceding literature)?
- What in your view is the weakness of the paper (if any)?

**Day 1 (June 19) - Signaling and the Value of Information**

We will study in detail Spence (1973) model of costly job market signaling. This basic model serves as a basis to many, more advanced, signaling models. The basic model will facilitate our study of fundamental concepts in signaling models, including single crossing property, and equilibrium refinements that aim at selecting among multiple equilibria. We will briefly discuss Cheap-Talk signaling models, pioneered by Crawford and Sobel (1982), in which non-verifiable signals do not impose any direct cost, but yet informative equilibria may exist.

To better understand how stock prices are determined in a rational expectations market and what is the value of private information to agents, we will study two mechanisms for security pricing in rational expectations settings. We will start with the classical noisy rational expectation model of Grossman and Stiglitz (1980). The paper studies a setting with one risky asset and three types of traders: informed strategic traders, strategic but uninformed traders and non-strategic noise traders. The paper derives the market-clearing price for the risky asset as well as the equilibrium in the market for information, in which strategic traders can choose whether to acquire information and become informed or whether to save the information acquisition cost and remain uninformed.

Then, if time allows, we will cover Kyle (1985), which studies how a market-maker sets the price given the total order flow, which is the aggregation of the demand of a strategic informed investor and non-strategic noise traders.

Both models demonstrate the value of private signals to investors.

**Readings**

\*Chapter 3 in BD

\*M. Spence, Job Market Signaling, Quarterly Journal of Economics, August 1973.

\*S. Grossman and J. Stiglitz, On the Impossibility of Informationally Efficient Markets, American Economic Review, June 1980.

\*A. Kyle, Continuous Auctions and Insider Trading, Econometrica, November, 1985.

V. Crawford and J. Sobel, Strategic Information Transmission, Econometrica, November 1982.

**Day 2 (June 20) - Voluntary Disclosure**

Studies in the early 80's (Milgrom 1981, Grossman 1981, Grossman and Hart 1980) demonstrated that when the payoff of a privately informed agent/firm (the sender) is

monotone in the market (receiver) beliefs about the sender's type and disclosure and verification of the sender's private information is costless (and there are no other frictions) - full disclosure prevails as the unique equilibrium. The intuition for this "unraveling result" is straightforward and is in line with the intuition for Akerlof's (1970) market for lemons arguments.

The subsequent theoretical literature on voluntary disclosure has been focusing on settings in which one (or more) of the premises of the unraveling result does not hold, and as a result, partial disclosure may occur in equilibrium. We will start by studying static settings in which disclosure is costly (e.g., due to proprietary costs), pioneered by Verrecchia (1983), and settings in which the market is uncertain whether the sender is endowed with private information, pioneered by Dye (1985). In both of these settings the equilibrium is characterized by a disclosure threshold. We will also study settings in which disclosure is not verifiable and the sender/firm can manipulate the report, at a cost. If time allows, we will also discuss dynamic setting of voluntary disclosure, which are more representative of corporate disclosure environment (but also introduce additional modeling challenges).

### **Readings**

\*Chapter 5 in BD

\*Verrecchia, Discretionary Disclosure, Journal of Accounting and Economics, 5, 179-194, 1983.

\*Dye, Disclosure of Nonproprietary Information, Journal of Accounting Research 23, 123–145, 1985.

\*Jung and Kwon, Disclosure when the market is unsure of information endowment of managers, Journal of Accounting Research 26, 146–153, 1988.

\*Beyer and Guttman, Voluntary Disclosure, manipulation and Real Effects, Journal of Accounting Research 50, 2012.

Guttman, Kremer and Skrzypacz, Not Only What But Also When – A Theory of Dynamic Voluntary Disclosure, American Economic Review 104 (8), 2014.

Acharya, DeMarzo and Kremer, Endogenous Information Flows and the Clustering of Announcements, American Economic Review 101 (7), 2011.

Einhorn and Ziv, Intertemporal Dynamics of Corporate Voluntary Disclosures, Journal of Accounting Research 46 (3), 2008.

Beyer, Cohen, Lys and Walther, The Financial Reporting Environment: Review of the Recent Literature, Journal of Accounting and Economics, 2010.

Shin, Disclosure and Asset Returns, Econometrica, 71, pp. 105-133, 2003.

**Day 3 (June 21) - Earnings Management and Financial Analysts**Earnings Management

Empirical literature and anecdotal evidence suggest that managers can, and often do, manipulate their disclosure. The literature has studied earnings management in settings in which biasing the report is costly to the manager/firm (costly signaling models), as well as settings in which biasing the report is costless to the manager/firm (cheap-talk models). Our focus will be on costly signaling settings. Another distinction in the literature is between settings in which the manager's contract/incentives are given exogenously and settings in which managers' contracts/incentives are optimally set by the principal (shareholders). We will mostly study settings in which the manager's contract is given exogenously, and if time allows, we will also discuss settings in which the manager's contract is optimally set by a principal who takes into account that the manager may manipulate his report, a report that serves as the performance measure in determining the manager's compensation.

Financial Analysts

Financial (sell side) analysts are one of the major sources of information in capital markets. These financial intermediaries affect the information in capital markets both directly, through information they disclose, and indirectly, through their effect on firm managers' disclosure decisions.

There are many important decisions that financial analysts have to make, for example: what firms to cover, how much effort to put into acquiring information, what kind of information to disclose (e.g., earnings forecast, recommendations, target price, revenue growth), when to issue their disclosure, whether to bias their disclosure. The answer to the above questions depends on analysts' incentives. In the last 20 years the institutional and regulatory environment in which analysts operate has changed a lot. Moreover, there is also variation among analyst's incentives in a given point in time, e.g., affiliated versus unaffiliated analysts, analysts that work for brokerage house and hence care about trading commissions versus analysts that do not benefit from trading commissions.

Due to shortage in time, we will have a short discussion of the theoretical literature on financial analysts and we will study only one paper in the area.

**Readings – Earnings Management**

\*Stein, J. C., Efficient Capital Markets, Inefficient Firms: A Model of Myopic Corporate Behavior, Quarterly Journal of Economics 1989.

\* Fisher, P. and R. Verrecchia, Reporting Bias, The Accounting Review, April 2000.

\*Guttman, Kadan and Kandel, A Rational Expectations Theory of Kinks in Financial Reporting, The Accounting Review, 2006.

Beyer, Guttman and Marinovic, A Dynamic Model of Earnings Management and Earnings Quality, working paper, 2017.

Dye, R., Earnings Management in an Overlapping Generation Model, Journal of Accounting Research, 1988.

Arya, A., Glover, J. and Sunder, S., Earnings Management and The Revelation Principle, Review of Accounting Studies, 1998.

Beyer, Guttman and Marinovic, Optimal Contracts with Performance Manipulation, Journal of Accounting Research, 52, 2014

M. Kirschenheiter and N. Melumad, Can “Big Bath” and Earnings Smoothing Co-exist as Equilibrium Financial Reporting Strategies? Journal of Accounting Research, 2002

Sankar, M., and Subramanyam, K.R. 2001, Reporting discretion and private information communication through earnings, Journal of Accounting Research 39: 365-386.

Burgstahler, D. and I. Dichev, Earnings management to avoid earnings decreases and losses, Journal of Accounting and Economics 24: 99-126, 1997.

Degeorge, F., J. Patel, and R. Zeckhauser, Earnings management to exceed thresholds, Journal of Business 72: 1-33, 1999.

### **Readings – Financial Analysts**

\*Beyer and Guttman, The Effect of Trading Commissions on Analysts' Forecast Bias, The Accounting Review, 2011.

Fischer, P. and P. Stocken, Analyst Information Acquisition and Communication, The Accounting Review, 2010.

Morgan and Stocken, An Analysis of Stock Recommendations, RAND Journal of Economics. 2003.

Guttman, The Timing of Analysts' Earnings Forecasts, The Accounting Review, 2010.

Hayes R., The Impact of Trading Commission Incentives on Analyst's Stock Coverage Decision and Earnings Forecasts, Journal of Accounting Research. 1998.