

# Topics in Behavioral Labor Economics

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Lecture 1

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# Plan for Today

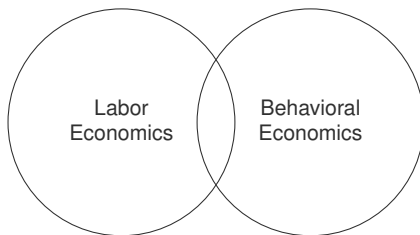
## 1 Overview of behavioral labor economics

- 1 Questions
- 2 Methods
- 3 Examples

## 2 Suggested topics

- 1 Loss aversion
- 2 Peer effects
- 3 Goal setting
- 4 Gender Differences

# What is Behavioral Labor Economics



Goes by other names too: personnel economics, managerial economics

## Three Examples

# Tournament Incentives

## Tournaments and Piece Rates: An Experimental Study

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Clive Bull

*Paine Webber and New York University*

Andrew Schotter and Keith Weigelt

*New York University*

This paper presents an experimental examination of rank-order tournaments and piece rates. Ten experiments were run employing 225 paid undergraduate student volunteers. While, in general, the mean effort levels chosen by subjects converged to their theoretical equilibrium levels in both the piece rate and symmetric tournament experiments, a large variance was observed for all rank-order tournaments, and this variance persisted despite a number of different tournaments. The variance in the piece rate experiment was quite small. In the one asymmetric tournament, it was observed that while the mean effort level of “advantaged” subjects converged toward its theoretic equilibrium level, the mean effort level of disadvantaged subjects remained above their equilibrium level. In summation, while our results were supportive of the theory of tournaments, quite a number of puzzles were raised.

# Motivation

Bull, Schotter, and Weigelt (1987)

*Over the last several years a literature has developed that studies the theory of tournaments as incentive devices... Tournaments are distinguished from other incentive devices, for instance, piece rates, by the fact that an agent's payment in a tournament depends only on his performance relative to that of other agents covered by the incentive system... This literature is empirically relevant given the pervasiveness of tournaments. ... Given that a theory has been devised for these incentive systems, the next step is, of course, to test the propositions generated by the theory... In view of the enormous problems with testing the theory of tournaments using natural data, one is compelled to test the theory in an experimental setting.*

# Motivation Explained

- Important theoretical work
- Untested empirically
- Hard to use observational data
- **Experiment is ideal!**

# Why is it Behavioral Labor Economics

- The theory under investigation is about a labor-market issue—how to incentivize workers
- No behavioral mechanisms (yet)
- Subjects' behavior could yield some patterns not predicted by the model



# What is Theory About?

- Theory predicts effort levels for different parameters of the tournament
- How effort levels would change with parameters (comparative statics)
- How to test: vary the parameters of the tournament and observe whether subjects' actual behavior matches theoretical predictions

# Experimental Design

- Classroom experiment, pen and paper—no computers
- Subjects form a pair
- Choose effort levels
- Effort is costly
- Random noise added to effort—output
- The subject with the largest output in a pair wins the tournament

## Chosen-effort framework

# Gift-Exchange

*Econometrica*, Vol. 65, No. 4 (July, 1997), 833–860

## RECIPROCITY AS A CONTRACT ENFORCEMENT DEVICE: EXPERIMENTAL EVIDENCE

BY ERNST FEHR, SIMON GÄCHTER, AND GEORG KIRCHSTEIGER<sup>1</sup>

Numerous experimental studies indicate that people tend to reciprocate favors and punish unfair behavior. It is hypothesized that these behavioral responses contribute to the enforcement of contracts and, hence, increase gains from trade. It turns out that if only one side of the market has opportunities for reciprocal responses, the impact of reciprocity on contract enforcement depends on the details of the pecuniary incentive system. If both sides of the market have opportunities for reciprocal responses, robust and powerful reciprocity effects occur. In particular, reciprocal behavior causes a substantial increase in the set of enforceable actions and, hence, large efficiency gains.

**KEYWORDS:** Contract enforcement, reciprocity, moral hazard, principal agent theory.

# Motivation

Fehr, Gächter, and Kirchsteiger (1997)

*The standard approach to the enforcement of contracts derives incentive-compatibility constraints under the assumption of fully rational and selfish individuals. In this paper we argue that the exclusive reliance on selfishness and, in particular, the neglect of reciprocity motives may lead to wrong predictions and to wrong normative inferences. We argue that reciprocal behavior may cause an increase in the set of enforceable contracts and may thus allow the achievement of nonnegligible efficiency gains.*

# Motivation Explained

- Builds upon an important strand of theoretical literature on the **contract theory** and the **principal-agent problem**
- Particular aspect—shirking or under-provision of effort (moral hazard)
- Theory rests on assumption of selfishness
- Experimental evidence shows that people have other-regarding preferences
- What are implications of other-regarding preferences for moral hazard?

# Why is it Behavioral Labor Economics

- Starts with a labor market question
- Contracts between principals and agents and the enforcement of such contracts
- Proposes a behavioral mechanism—reciprocity
- Experimental environment that allows one to study the proposed mechanism

# Experimental Design

- Game with firms and workers
- Firms offer contracts to workers
- Workers choose contracts they like and choose effort
- Both players simply exchange payoffs

## Gift-exchange framework

# Theoretical Predictions

- Standard theory: firms choose the maximum possible fine > workers choose maximum enforceable effort level > wage is just enough to compensate the workers
- Reciprocity: alternative equilibrium, firms pay workers more than required > workers reciprocate by choosing more effort than is required



# Gender and Competitiveness

## DO WOMEN SHY AWAY FROM COMPETITION? DO MEN COMPETE TOO MUCH?\*

MURIEL NIEDERLE AND LISE VESTERLUND

We examine whether men and women of the same ability differ in their selection into a competitive environment. Participants in a laboratory experiment solve a real task, first under a noncompetitive piece rate and then a competitive tournament incentive scheme. Although there are no gender differences in performance, men select the tournament twice as much as women when choosing their compensation scheme for the next performance. While 73 percent of the men select the tournament, only 35 percent of the women make this choice. This gender gap in tournament entry is not explained by performance, and factors such as risk and feedback aversion only play a negligible role. Instead, the tournament-entry gap is driven by men being more overconfident and by gender differences in preferences for performing in a competition. The result is that women shy away from competition and men embrace it.

# Motivation

Niederle and Vesterlund (2007)

*Bertrand and Hallock [2001] show that in a large data set of U.S. firms women only account for 2.5 percent of the five highest paid executives. Ability differences can only explain part of this occupational difference and it is commonly argued that preferences and discrimination can account for the remaining difference ... Gender differences in preferences for competition may be an additional explanation for differences in labor market outcome; in particular, it may help explain the absence of women in top-level and very competitive positions.*

# Motivation Explained

- Use experimental tools to answer an interesting policy-relevant question
- Goal: explain under-representation of women in the top-level positions and resulting income inequality
- Propose a mechanism, which would be very hard to study using observational data
- Subsequent gender literature tends to forget about the original question and instead dwells on the proposed answer...

# Why is it Behavioral Labor Economics?

- Explain the differential labor market outcomes between males and females
- Proposed a novel behavioral mechanism: preferences for competition
- Experiment that mimics certain aspects of the labor market environment

# Experimental Design

- Subjects perform a real-effort task—addition task
- Experience two incentive schemes and choose the incentive scheme that they prefer
- Piece rate and tournament
- Groups comprised of two males and two females
- Outcome of interest—revealed preference for the tournament
- Is there a systematic variation of this preference by gender?

# Summary So Far

**Which common elements did you notice?**

# Summary So Far

## Which common elements did you notice?

- Incentives and incentive schemes
- Effort: chosen or real
- Motivation: theory or real-world phenomena
- Specific behavioral mechanisms that could explain behavior in the experiments
- Setting: strategic (principal-agent) or individual

# Suggested Topics

## ■ Loss Aversion

- de Quidt (2017)
- Bulte, List, and van Soest (2020)

## ■ Peer Effects

- Dube, Giuliano, and Leonard (2019)
- Heinz, Jeworrek, Mertins, Schumacher, and Sutter (2020)

## ■ Goal Setting

- Gosnell, List, and Metcalfe (2020)
- Clark, Gill, Prowse, and Rush (2020)

## ■ Gender Differences

- Exley, Niederle, and Vesterlund (2020)
- Mengel (2020)
- Sarsons, Gërkhani, Reuben, and Schram (2021)



# Peer Effects

- A peer effect occurs when your own behavior is affected by the behavior and characteristics of your peers
- “...*nearly any externality in which peers’ backgrounds, current behavior, or outcomes affect an outcome*” (Sacerdote, 2011)
- **Example:** a strong association between the outcomes of individual students and their classmates (test scores, college going, career choice, drug use, or teen pregnancy)
- Not limited to educational setting, occurs in the workplace, too
- **Examples:** “peer pressure” and “knowledge spillovers” (Cornelissen et al., 2017)

# Suggested Papers on Peer Effects

## Fairness and Frictions: The Impact of Unequal Raises on Quit Behavior<sup>†</sup>

By ARINDRAJIT DUBE, LAURA GIULIANO, AND JONATHAN LEONARD\*

*We analyze how separations responded to arbitrary differences in own and peer wages at a large US retailer. Regression-discontinuity estimates imply large causal effects of own-wages on separations, and on quits in particular. However, this own-wage response could reflect comparisons either to market wages or to peer wages. Estimates using peer-wage discontinuities show large peer-wage effects and imply the own-wage separation response mostly reflects peer comparisons. The peer effect is driven by comparisons with higher-paid peers—suggesting concerns about fairness. Separations appear fairly insensitive when raises are similar across peers—suggesting search frictions and monopsony are relevant in this low-wage sector. (JEL D63, J31, J42, J62, L81)*

## Suggested Papers on Peer Effects

### MEASURING THE INDIRECT EFFECTS OF ADVERSE EMPLOYER BEHAVIOUR ON WORKER PRODUCTIVITY: A FIELD EXPERIMENT\*

*Matthias Heinz, Sabrina Jeworrek, Vanessa Mertins, Heiner Schumacher and Matthias Sutter*

We conduct a field experiment to study how worker productivity is affected if employers act adversely towards their co-workers. Our employees work for two shifts in a call centre. In our main treatment, we lay off some workers before the second shift. Compared to two control treatments, we find that the lay-off reduces the productivity of unaffected workers by 12%. We find suggestive evidence that this result is not driven by altered beliefs about the job or the management's competence, but caused by the workers' perception of unfair employer behaviour. The latter interpretation is confirmed in a prediction experiment with professional HR managers. Our results suggest that the price for adverse employer behaviour goes well beyond the potential tit for tat of directly affected workers.

# Gender Differences

- Refers to any differences between persons that are attributed only to gender and not to other observable characteristics
- **Example:** gender pay gap
- In Germany the pay gap is 18%, and March 7, 2022 is the Equal Pay Day
- Other gaps too: under-representation of women in executive positions, boards of directors, academic positions, STEM fields
- What are the mechanisms behind these gaps?

# Suggested Papers on Peer Effects

## Knowing When to Ask: The Cost of Leaning In

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Christine L. Exley

*Harvard University*

Muriel Niederle

*Stanford University and National Bureau of Economic Research*

Lise Vesterlund

*University of Pittsburgh and National Bureau of Economic Research*

Women's reluctance to negotiate is often used to explain the gender wage gap, popularizing the push for women to "lean in" and negotiate more. Examining an environment in which women achieve positive profits when they choose to negotiate, we find that increased negotiations are not helpful. Women know when to ask: they enter negotiations resulting in positive profits and avoid negotiations resulting in negative profits. While the findings are similar for men, we find no evidence that men are more adept than women at knowing when to ask. Thus, our results caution against a greater push for women to negotiate.

# Suggested Papers on Peer Effects

## GENDER DIFFERENCES IN NETWORKING\*

*Friederike Mengel*

Gender differences in networking have been cited as an important reason behind gender earnings and promotion gaps. Despite this fact there is comparatively little evidence on whether such differences exist or what they look like. We conduct a series of experiments to gain insight into these questions. The experiments are designed to understand differences in the strategic use of networks, when both men and women have the same opportunities to network. While we do find evidence of gender earnings and promotion gaps in the lab, we do *not* find evidence of gender differences in network formation, except for the fact that men display more homophily than women. Women and men do, however, *not* systematically differ in terms of the number of links formed or received nor in terms of their centrality in the network. Earnings and promotion gaps appear partly because male decision makers are more likely to reward their (predominantly male) network neighbours with increased earnings as well as promotion.

# Suggested Papers on Peer Effects

## Gender Differences in Recognition for Group Work

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Heather Sarsons

*University of Chicago Booth School of Business*

Klarita Gërxhani

*European University Institute*

Ernesto Reuben

*New York University Abu Dhabi and Luxembourg Institute of Socio-Economic Research*

Arthur Schram

*Amsterdam School of Economics and European University Institute*

We study whether gender influences credit attribution for group work using observational data and two experiments. We use data from academic economists to test whether coauthorship matters differently for tenure for men and women. We find that, conditional on quality and other observables, men are tenured similarly regardless of whether they coauthor or solo author. Women, however, are less likely to receive tenure the more they coauthor. We then conduct two experiments that demonstrate that biases in credit attribution in settings without confounds exist. Taken together, our results are best explained by gender and stereotypes influencing credit attribution for group work.

# Goal Setting

- Goals are everywhere: sales goals, climate goals, weight loss goals, fiscal goals, production goals
- Goals can be exogenous or self-set
- They can be a cost-effective tool to boost performance
- Goals can also backfire if chosen poorly (design flaws, wrong focus, poor work quality)
- Goals have a long tradition in the psychology literature, but more recently economists study them in the educational and workplace contexts



# Suggested Papers on Goal Setting

## USING GOALS TO MOTIVATE COLLEGE STUDENTS: THEORY AND EVIDENCE FROM FIELD EXPERIMENTS

Damon Clark, David Gill, Victoria Prowse, and Mark Rush\*

*Abstract*—Will college students who set goals work harder and perform better? We report two field experiments that involved four thousand college students. One experiment asked treated students to set goals for performance in the course; the other asked treated students to set goals for a particular task (completing online practice exams). Task-based goals had robust positive effects on the level of task completion and marginally significant positive effects on course performance. Performance-based goals had positive but small and statistically insignificant effects on course performance. A theoretical framework that builds on present bias and loss aversion helps to interpret our results.

time comes to attend class or study, they might lack self-control necessary to implement these plans. The educational psychology literature finds that self-control correlates positively with effort, which supports the idea that some students underinvest in effort because of low self-control (e.g., O'Donoghue & Seligman, 2005; Duckworth, Quinn, & Tsai, 2012). Third, the behavioral economics literature suggests that agents who lack self-control can use commitment devices to

## Suggested Papers on Goal Setting

### The Impact of Management Practices on Employee Productivity: A Field Experiment with Airline Captains

Greer K. Gosnell

*London School of Economics and Political Science*

John A. List

*University of Chicago and Australian National University*

Robert D. Metcalfe

*Boston University*

Increasing evidence indicates the importance of management in determining firms' productivity. Yet causal evidence regarding the effectiveness of management practices is scarce, especially for skilled labor in the developed world. In a field experiment measuring commercial airline captains' productivity, we test four distinct management practices: performance monitoring, performance feedback, target setting, and prosocial incentives. These practices—particularly monitoring and target setting—significantly increase captains' productivity on the targeted fuel-saving dimensions, with positive spillovers on job satisfaction and CO<sub>2</sub> emissions. The study reveals an uncharted research opportunity to delve into the black box of firms to examine the determinants of productivity among skilled labor.

# Loss Aversion

- “Losses loom larger than gains” (Tversky and Kahneman, 1991)
- **Example:** imagine getting 10 euros, and after a week giving the money back
- Loss aversion originated from the research on choice under risk and helped explain some behavioral patterns (Kahneman and Tversky, 1979)
- It can also play a role in other contexts as an incentive tool
- **Examples:** work settings (Hossain and List, 2012), educational settings (Levitt et al., 2016)

## Suggested Papers on Loss Aversion

# YOUR LOSS IS MY GAIN: A RECRUITMENT EXPERIMENT WITH FRAMED INCENTIVES

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**Jonathan de Quidt**

Institute for International Economic  
Studies, Stockholm University

### Abstract

As predicted by loss aversion, numerous studies find that penalties elicit greater effort than bonuses, even when the underlying payoffs are identical. However, loss aversion also predicts that workers will demand higher wages to accept penalty contracts. In six experiments I recruited workers online under framed incentive contracts to test the second prediction. None find evidence for the predicted distaste for penalty contracts. In four experiments penalty framing actually increased the job offer acceptance rate relative to bonus framing. I rule out a number of explanations, most notably self-commitment motives do not seem to explain the finding. Two experiments that manipulate salience are successful at eliminating the effect, but do not significantly reverse it. Overall, loss aversion seems to play surprisingly little role in this setting. The results also highlight the importance of behavioral biases for infrequent, binding decisions such as contract take-up. (JEL: D03, J41, D86)

# Suggested Papers on Loss Aversion

## TOWARD AN UNDERSTANDING OF THE WELFARE EFFECTS OF NUDGES: EVIDENCE FROM A FIELD EXPERIMENT IN UGANDA\*

*Erwin Bulte, John A. List and Daan van Soest*

Social scientists have recently explored how framing of gains and losses affects productivity. We conducted a field experiment in peri-urban Uganda, and compared output levels across 1,000 workers over isomorphic tasks and incentives, framed as either losses or gains. We find that loss aversion can be leveraged to increase the productivity of labour. The estimated welfare costs of using the loss contract are quite modest—perhaps because the loss contract is viewed as a (soft) commitment device.