

Integrating Economics & Psychology in Managerial Accounting Experiments

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Presentation Plan

- How do economists and psychologists view the world?
- The challenges of integration
- An example of an “integrated” paper

An Old View



In a Nutshell

- Economics focuses on outcomes and equilibria
 - Generally at an aggregate level
 - Focus on the discipline of markets
 - Framework driven
- Psychology focuses on processes
 - Generally at an individual level
 - Observation driven
- Intersection is in the study of choice
 - What is chosen
 - How it is chosen

The Issue of Rational Choice

- What is rational choice? A few principles:
 - Ordering of alternatives (Alternatives can be compared and ranked.)
 - Dominance (Rational decision makers don't choose dominated strategies.)
 - Cancellation (Rational decision makers rely only on those factors that differ, not factors that are the same for all alternatives.)
 - Transitivity (If a rational decision maker prefers A to B, and prefers B to C, then s/he prefers A to C.)
 - Invariance (A rational actor's decisions aren't affected by the way in which alternatives are presented.)
- Is it irrational to care about honesty or fairness?

Debates!

- “But that's not rational! Your participants left money on the table. You must have screwed up your experimental instrument.”
- “See? I told you I was right! Some people aren't completely selfish, jerks. Economists are dumb.”

If you remember one thing. . .

You can be rational and still care about others!

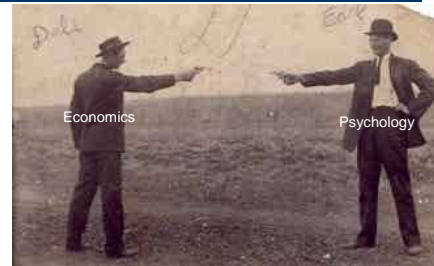
Economics Rules The World

- Lazear (2000) argues that “economics is the premier social science”. . . If economics-based hypotheses are more productive in furthering knowledge than other social sciences (as suggested by Lazear), then another factor retarding empirical managerial accounting’s lack of progress is its reliance on non-economics-based theories.
– Zimmerman / JAE 2001

Economists are Fools

- . . . the contention from agency theory that individuals make economic decisions based solely on their self-interest is not supported by this study. Rather, managerial self-interest may be constrained by ethical considerations, which casts much doubt on the agency theory assumption that behaviour is motivated solely by self interest.
– Rutledge, Karim / AOS 1999

Integration



Is Integration Possible?

- Use psychology theory to enhance economic theory.
- Use economic theory to enhance psychology theory.
- Horse races – Which is right?
- True integration

Using Psychology Theory to Enhance Economic Theory (a few examples)

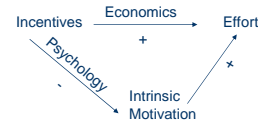
- Refined utility functions.
 - What is a utility function?
 - If you assume that people only care about wealth and leisure, all other incentives must be induced.
 - We now know (primarily through psychology-based studies) that people care about:
 - Work (intrinsic motivation)
 - Honesty
 - Fairness
 - Punishment
 - Impression Management
 - Relationships
- Process-related theory to explain “how” individuals go about trying to maximize utility

Using Economics Theory to Enhance Psychology Theory (a few examples)

- Effects of aggregation
 - How do psychological biases aggregate in the market?
- Effects of incentives on behavior

Horse Races

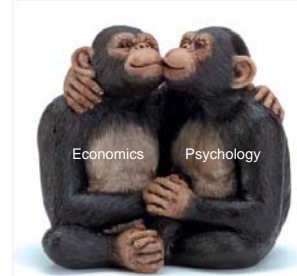
- Economics predicts X
- Psychology predicts Y
- Which is right?
- Implicit Assumption: They can't both be right!



True Integration

- Some topics need insights from both!

A New View



Why can't we all just get along?

- Our conclusion is that empirical management accounting research will be better off if it appeals less to disciplinary identity and instead uses a variety of theoretical frameworks from the social sciences to provide more complete explanations of management accounting practice.
 - Luft, Shields / EAR 2002

The Challenge

- Understanding Accounting
- Understanding Economics
- Understanding Psychology
- Understanding different practices / experimental traditions.

Methodological Differences

Psychology

Contextual
Individual
No Monetary Incentives
One-Shot
Deception as a Useful Tool

Economics

Abstract
Interactive
Salient Monetary Incentives
Repeated
Deception Prohibited

The Effect of Control Systems on Teams and Alliances: Trust and Cooperation in Collaborations

Coletti, Sedatole,
Towry / TAR 2005

Research Question

In collaborative settings (teams & alliances), do control systems create trust or destroy trust?

Two Views

- How might an economist characterize trust?
- A psychologist?

Operational Definitions

Trustworthiness – an interpersonal characteristic, reflecting one's tendency to cooperate, *absent any economic incentives to do so*.

Trust – One person's perception re: another's trustworthiness.

Control System – A formal system that rewards cooperation or punishes lack of cooperation

The Effect of Control Systems on Trust

- How might an economist expect control systems to affect trust?
- A psychologist?

Attributions

- When we see another person cooperating in the **presence** of a control system. . .
- vs.
- When we see another person cooperating in the **absence** of a control system. . .

Malhotra and Murnighan (ASQ, 2002)

- Their conclusion –
 - Control systems reduce trust.
- Cooperation was unaffected by control system.
- What if we bring some economics into their story?



Why would “control-induced cooperation” lead to trust?

- Fundamental Attribution Error – observers tend to over-attribute behavior to dispositional rather than situational characteristics. . .
- Therefore, when observing control-induced cooperation, we expect collaborators to over-attribute this cooperation to “trustworthiness.”

Experiment 1

- “Psychology-Type” Experiment
- 2 x 2 design
 - Control System (present or absent)
 - Role (collaborator or observer)
- One period
- Only hypothetical interaction
- Rich, contextual scenario
- Flat fee for participating (no incentives)

Collaborator

- Assumed role of R&D manager.
- Had both individual and joint projects.
- Had previously committed to devoting resources to joint project.
- Dilemma – top management wouldn’t know who to blame if joint projects failed.
- Task –devote high level of resources to *either* joint *or* individual projects.

Control System Manipulation

- Present: A consultant has been hired to make periodic, unannounced visits. If the consultant detects an insufficient level of resources on the joint project -> lower bonus, reduced budgets.
- Absent: No consultant

Direct Effect of Control System on Cooperation

Collaborator Choices

	<u>No Ctl</u>	<u>Ctl</u>
Percent of Participants Investing High Resources in Joint Project (Cooperative Action)	24%	75%

Observer

- Received full experimental package – scenario and responses – from one collaborator.
- Task – Make several judgments about the collaborator.

Trust

Observer's Assessments

	<u>No Ctl</u>	<u>Ctl</u>
Trustworthiness	5.62	7.15
Team Player	4.38	6.75
Cooperativeness	5.43	6.70

Experiment 2

- Economics-type experiment
- 2 x 30 design
 - Control System (present or absent)
 - 30 periods
- Interactive setting (anonymous, computer based)
- Rich, contextual scenario
- Decision-based incentives

Payoff Structure

Cost of Resources Dedicated to Joint Project

- High Resources: - 15 points.
- Low Resources: - 0 points.

Joint Project Profits Shared Equally

Based on both divisions' contributions.

- Both Low: + 10 points (5 for each division).
- One Low, One High: + 30 points.
- Both High: + 50

Payoff Structure

		Collaborator 2	
		low	high
Collaborator 1	low*	5,5**	15,0
	High	0,15	10,10

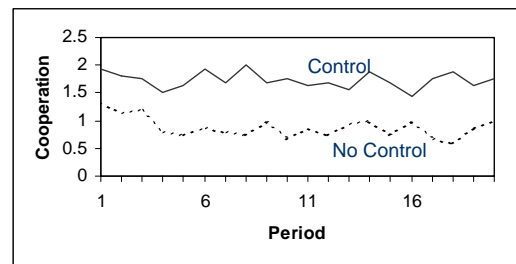
Control System Manipulation

- Present: 80% of the time, your choice will be audited, and if you have dedicated high resources to the joint project, you get a bonus of 15 points.
- Absent: No audits.

Payoff Structure (with control system)

		Collaborator 2	
		low	high
Collaborator 1	low*	5,5**	15,(2)
	High	(2),15	(22),(22)

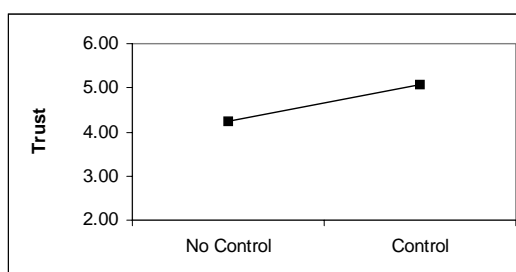
Results



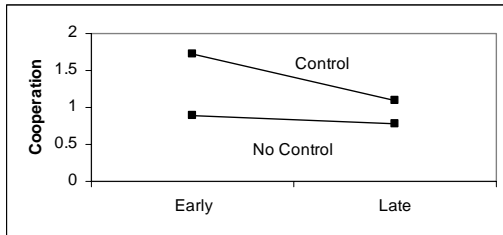
After 20 periods

- Participants in control system condition notified that there would be no more audits.
- After period 20, the two conditions are equivalent.

Trust



Cooperation



Takeaways

- Control can actually increase trust, due to:
 - Increased Economic Incentives for Cooperation.
 - Mis-attribution of cooperation to inherent personal characteristics (trustworthiness).
 - Self-reinforcing effect of trust on cooperation.

Extensions

- What might psychologists study?
 - Processes by which control affects trust.
 - Different types of control.
Christ et al. 2006
- Economists?
 - The effect of changes in control strength over time on compliance with social norms.
Bloomfield & Taylor 2006

Final Remarks

- Integration is possible, but it isn't easy.
- Integration includes both theory and methodology.
- It will only be achieved if a few of us are willing to step out of the comfort of a paradigm.
- We need interpreters!
- You will be everybody's friend. . .
- And everybody's enemy.
- It's where the fun stuff is.

Is this rational?

Pick one gamble:

99% chance of winning \$4.00

1% chance of losing \$1.00

OR

33% chance of winning \$16.00

67% chance of losing \$2.00

Is this rational?

You own two tickets. Indicate the price at which you would be willing to sell each ticket.

99% chance of winning \$4.00

1% chance of losing \$1.00 _____

33% chance of winning \$16.00

67% chance of losing \$2.00 _____

How would they react to preference reversals?

- Economists
 - Discredit the evidence.
 - Try to explain why the results are actually consistent with expected utility maximization.
- Psychologists
 - Say HA to economists.
 - Try to derive new theories of the decision-making process that are consistent with findings.

"Whereas psychologists delight in finding anomalous behavior that contradicts received wisdom, economists revel in showing how apparently anomalous behavior is in fact consistent with the maintained hypothesis."

Hogarth and Reder, JOB 1986