

BEEM109 Experimental Economics and Finance

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Last week we looked at incentive structures within the firm:

- ▶ Piece rates,
- ▶ Tournaments;
- ▶ Revenue Sharing

We saw the potential for collusion which can exist with (some) relative performance contracts

We looked at how tournaments may induce higher effort from workers

- ▶ but also higher variance in effort.

We looked at some evidence pointing so self-sorting into different types of contracts.

Choice of incentive structure may be influenced by:

- ▶ Gender, risk attitudes, overconfidence

This week we will go over the behavioural literature on groups.

The basic unit of analysis in economics is the individual

However, many decisions are made by groups:

- ▶ households, governments, board of directors, parliament, committees

We will look at several different questions regarding groups:
Are groups better decision-makers?

- ▶ Faster, more rational?

What is the decision-making dynamic within a group?

Does our membership of groups affect our decisions?

Before reviewing the evidence, we must distinguish between two types of problems:

- ▶ Eureka!-type problems
- ▶ Decisions which depend on ones preferences.

We begin with evidence of Eureka!-type decisions.

Are groups better decision-makers?

Blinder and Morgan (2000) study whether:

- ▶ Groups are slower DMs than individuals;
- ▶ Groups make worse decisions than individuals.

The authors consider a simple DM under uncertainty experiment.

Subjects were faced with an urn whose composition was:

- ▶ 50% blue balls and 50% red balls.

In every round, a ball would be drawn with replacement.

They were told that at some point in the experiment this would change into:

- ▶ 70% blue balls and 30% red balls, or
- ▶ 30% blue balls and 70% red balls.

Subjects had to guess which change had happened, based on the draws.

- ▶ Change happened no later than the first 10 draws.
- ▶ Either case was equally likely to happen.

Earnings were calculated based on how fast (number of draws) and how accurate the estimate was:

- ▶ $S = 40 + 60C - |L|$

$$S = 40 + 60C - |L|$$

$C = 1$ if estimate was right, 0 otherwise

$L = TN$, where

- ▶ T was the draw at which the composition of the urn changed;
- ▶ N the draw at which the estimate was made.

Think of the original (50/50) urn as a default state in the economy.

The other two urns could signify a recession or a boom.

- ▶ The draws signify the new bits of information that arrive to the policy-maker.
- ▶ Note that the change of contents is quite subtle, hence not easy to detect.

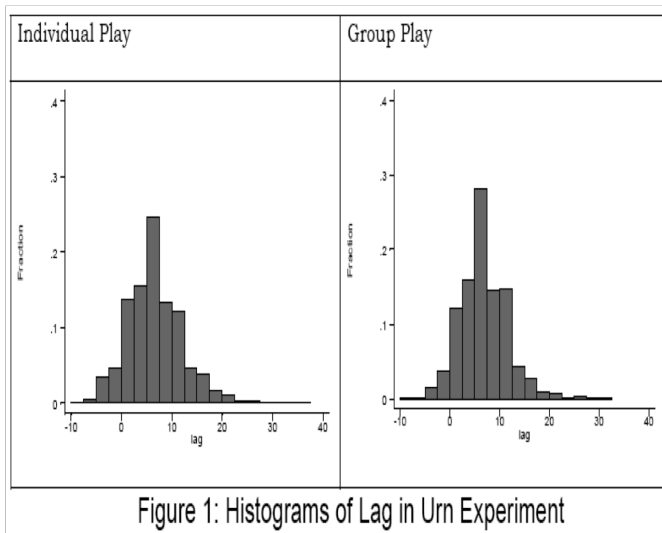
Changes in macroeconomic conditions are rarely drastic.

- ▶ Hence the question to policymakers is not whether to cut or raise interest rates;
- ▶ It is more about doing nothing or raise/cut?

The payoff function also puts a much higher premium on accuracy over speed.

Acting quickly but incorrectly can have disastrous consequences.

Blinder and Morgan (2000)



Groups are no slower than individuals at making decisions;

- ▶ Majority rule is faster than unanimity (unsurprising).

Groups make better decisions than individuals:

- ▶ Average score for groups = 86.8
- ▶ Average score for individuals = 83.7

Blinder and Morgan (2000) findings

Women are quicker than men but less accurate

- ▶ Surprising, given risk aversion literature more data needed to give a firm answer to this, I think.

Groups with majority of men no different than groups with majority of women.

How do groups operate when there is no right or wrong decision to make?

Psychologists have found that decisions taken by groups systematically differ from individuals.

Group polarisation hypothesis:

- ▶ Group discussion moves decisions to more extreme points in the same direction as the average of the members initial choices.

Two hypotheses have emerged to explain this phenomenon:

- ▶ Social Comparison Theory (SCT);
- ▶ Persuasive Argument Theory (PAT).

PAT argues that individuals are influenced by the number and persuasiveness of arguments made during discussion.

Persuasive Argument Theory

An individual will change his mind towards a given direction if (s)he is exposed to sufficiently many arguments of that nature.

If group members will put forward arguments in favour of their private position, the final group decision should reflect the average of the initial positions.

Social Comparison Theory

SCT argues that people like to perceive and present themselves in a socially desirable way.

It argues that individuals like to perceive themselves as more favourable than the average tendency.

Hence, unlike PAT, it is the type of arguments that matter, not how many.

Cason and Mui (1997)

Cason and Mui (1997) study group vs. individual behaviour in a dictator game.

The research question is how group dynamics shape decision-making.

- ▶ SCT predicts groups will converge to more other-regarding behaviour;
- ▶ PAT predicts that groups will converge to more other-regarding behaviour only if individuals exhibit such preferences.

Cason and Mui (1997)

To gauge individual preferences, individuals were asked to state their decisions in the standard dictator game.

Pairs were then made and subjects were asked to decide again how to split an amount of money with a different pair.

Frequency of Shifts Toward Other-Regarding and Self-Regarding Team Offers and Classification of Mean Individual Offer

	Direction of shift (team)			Total (row)
	Self-regarding (team < mean individual)	No change (team = mean individual)	Other-regarding (team > mean individual)	
(a) Individual-Team (I-T) treatment				
Mean of the individual offer is				
Self-regarding (< \$1.50)	1*	6	9†‡	16
Neutral (= \$1.50)	2	0	0†‡	2
Other-regarding (> \$1.50)	2	4	1*†‡	7
Total (column)	5	10	10	25

Majority of shifts were in the direction predicted by SCT.

Especially for teams whose members made self-interested offers.

Group membership and identity

We now turn to the issue of how groups shape the decision-making of individuals.

Economists model preferences in a vacuum

Psychologists have long identified the importance groups have in shaping individuals preferences.

Group membership and identity

In particular, strong bonds within a group tend to lead to increased levels of cooperation within that group

- ▶ Business networks within immigrant communities;
- ▶ Old Boy networks (Old Etonians);

but may also lead to discrimination against those who do not belong to that group

Group membership and identity

Economists claim that such groups are a barrier to trade and therefore could hinder efficient outcomes.

However, this argument flies in the face of the success of some of these groups.

Social Identity Theory tries to explain why we observe discrimination by some groups against others.

Social identity theory

Social Identity is based on three factors:

- ▶ Categorisation
- ▶ Identification
- ▶ Comparison

Categorisation is the process of labelling individuals (ourselves included) into multiple identities

- ▶ E.g. Female, Muslim, White, English, Man Utd fan

Social identity theory

Identification is the process by which we identify ourselves (or not) with some groups.

- ▶ In-groups are groups with which we identify;
- ▶ Out-groups are groups with which we don't identify.

Comparison is the process by which we compare our in-groups with our out-groups.

- ▶ The norm is to have a bias towards our in-groups.

Tajfel et al. (1971) was the one of the first papers to study this in an experimental setting.

The study generated artificial groups with very little basis in the real world:

- ▶ Subjects were asked to state their preference between Klee and Kandinsky paintings.
- ▶ They were then sorted according to their preferences.

Social identity theory

Subjects were then asked to make an allocation of money between two participants:

- ▶ One in-group and one out-group subject.

Table 1
Multiple-Choice Allocation Matrices^a

Matrix	Payoffs for members of in-group and out-group													
A														
In-group	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Out-group	14	13	12	11	10	9	8	7	6	5	4	3	2	1
B														
In-group	19	18	17	16	15	14	13	12	11	10	9	8	7	
Out-group	1	3	5	7	9	11	13	15	17	19	21	23	25	
C														
In-group	7	8	9	10	11	12	13	14	15	16	17	18	19	
Out-group	1	3	5	7	9	11	13	15	17	19	21	23	25	

^a Adapted from Tajfel, Billig, Bundy, and Flament (1971).

When faced in the IG-OG condition, subjects chose the allocation which *maximised the difference* in payoffs between subjects

- ▶ Whilst favouring the IG player

Does this extend to real groups?

- ▶ Do real groups exhibit in-group favouritism?
- ▶ Are groups better at enforcing norms?

Social identity in real groups

Huffman et al. (2006) conduct a series of prisoners dilemmas using Swiss Army personnel.

- ▶ All Swiss males are required to do military service
- ▶ As part of training, recruits are randomly sorted into platoons.

Authors use random assignment to platoons as a proxy for group generation.

Social identity in real groups

Experiment 1: Standard Prisoners dilemma with 2 conditions:

- ▶ Playing with IG member;
- ▶ Playing with OG member;

Experiment 2: Two players were added who could “pay” to deduct points from the players playing the PD.

Social identity in real groups

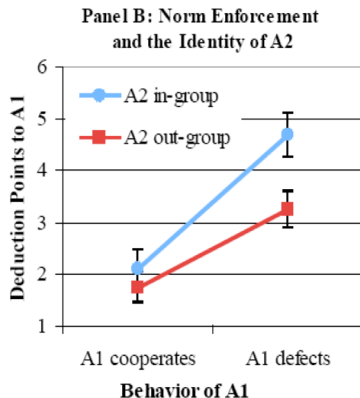
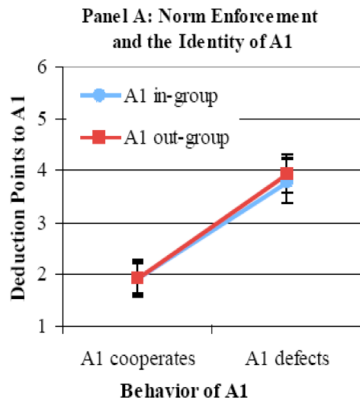
Result 1: Cooperation and expected cooperation of others is higher in IG than OG

TABLE 3 – COOPERATION AND BELIEFS IN IN-GROUP AND OUT-GROUP TREATMENT

	Fraction deciding to cooperate	Average Expected cooperation rate
In-group treatment	69.4 %	56.8 %
Out-group treatment	50.0 %	40.5 %
Test of difference	Fisher's exact test: $p < 0.05$	t - test: $p < 0.001$

Social identity in real groups

Result 2: Punishment is not a function of who defects, but of who is affected by the defection.



Social identity in real groups

We see higher levels of cooperation within group members than with outsiders

- ▶ Even when groups are formed randomly.

Individuals are not harsher to IG than OG;

However, norm violations which hurt an IG member are punished harder.