

Rational Decision-Making for Local Government Finance Managers

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Plan for our time together

- ▶ What this session will NOT do:
 - Purport to make you more ethical
 - Solve all your decision-making challenges
- ▶ What this session WILL do:
 - Offer a framework for decision-making
 - Identify some challenges/threats to rational decision-making
 - Identify some challenging decisions you face applying this framework
 - Offer an open environment to discuss those challenges
 - Provide some recommendations based on discussion



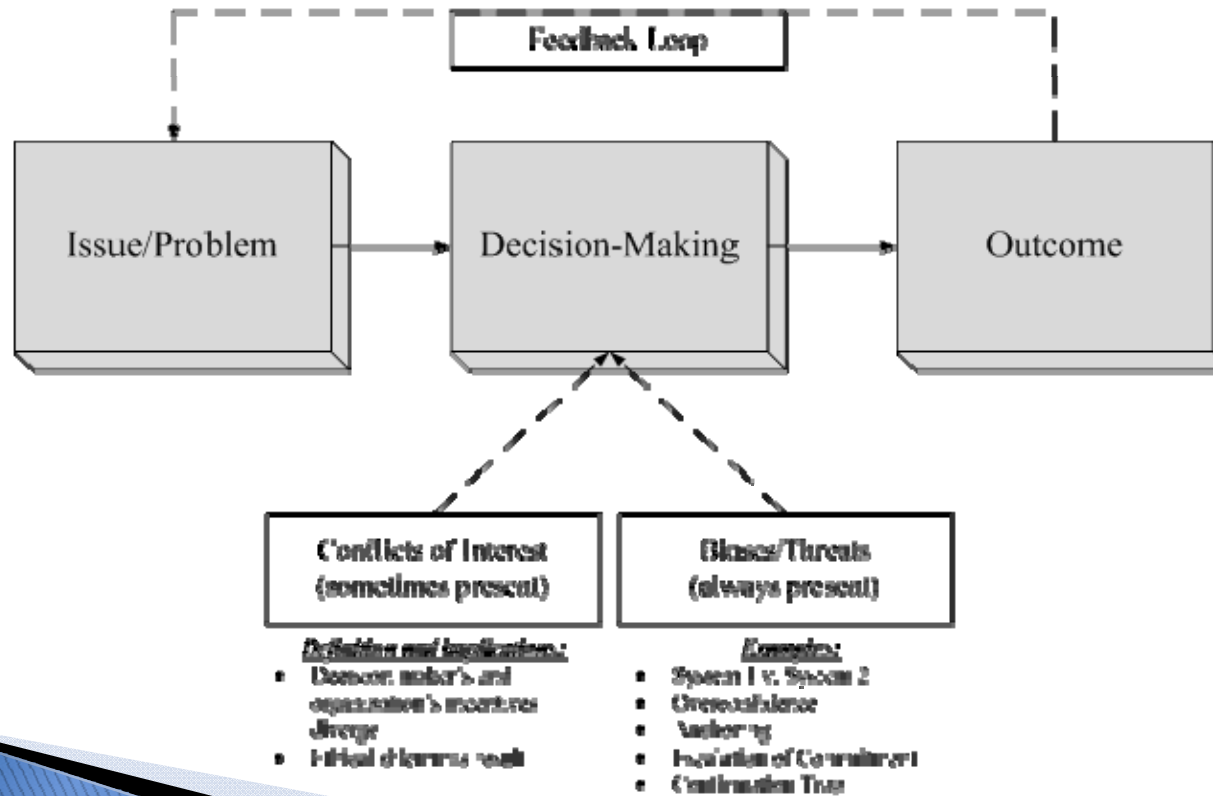
Motivation

- ▶ Ethics in government finance
- ▶ Government ethics program = “program of training, advice, disclosure, and enforcement that helps government officials and employees deal responsibly with *conflict-of-interest* situations” – Wechsler (2012)
- ▶ Scandals are “a gift to ethics reform” – Wechsler (2012)



Motivation

- ▶ Decision-making is a broader concept
- ▶ Applicable in all situations, not just those where there is a *conflict-of-interest*

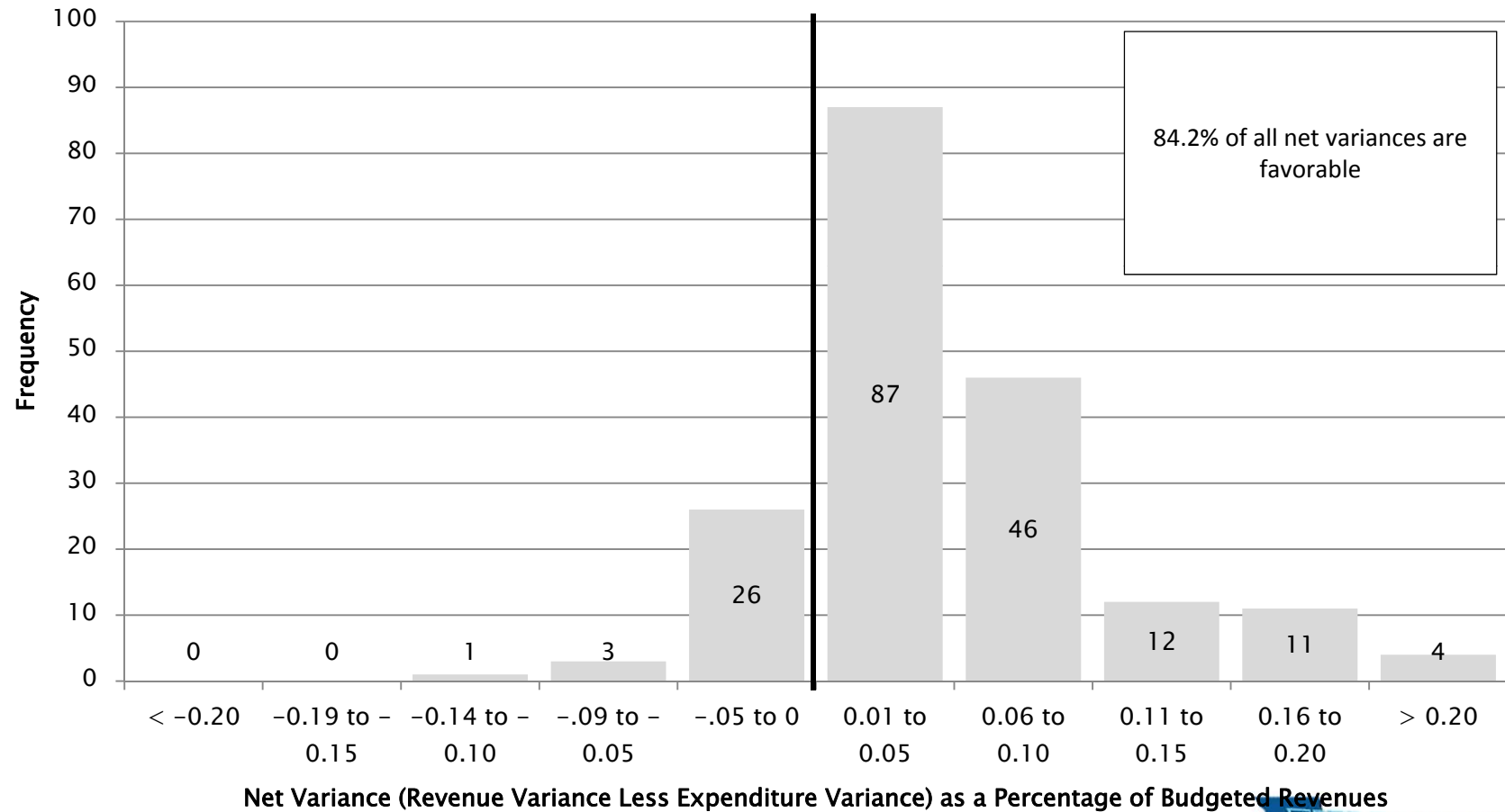


Motivation

- ▶ Which are we most likely to influence?
 - Decision-making skills
 - Ethical awareness and application
- ▶ Student examples
 - Budgeting
 - Cyclical spending



Budget-to-actual variances



Existing frameworks for ethics/decision-making

- ▶ American Institute of CPAs
- ▶ Association of Government Accountants
- ▶ Illinois City/County Managers Association
- ▶ Government Finance Officers Association
 - Personal standards
 - Responsibility as public officials
 - Professional development
 - Professional integrity – information
 - Professional integrity – relationships
 - Conflict of interest



First exercise

- ▶ Participants complete individually
 - Demographic information
 - Three short exercises
- ▶ Debrief results



First exercise

▶ Debrief results

- Bat and ball
- Flowers – consider these three statements:
 - All roses are flowers.
 - Some flowers fade quickly.
 - Therefore some roses fade quickly.
- How many murders occur in the State of Michigan each year?
- In a lake, there is a patch of lily pads. Every day the patch doubles in size. If it takes 48 days for the patch to cover the entire lake, how long would it take for the patch to cover half of the lake?



System 1 v. System2

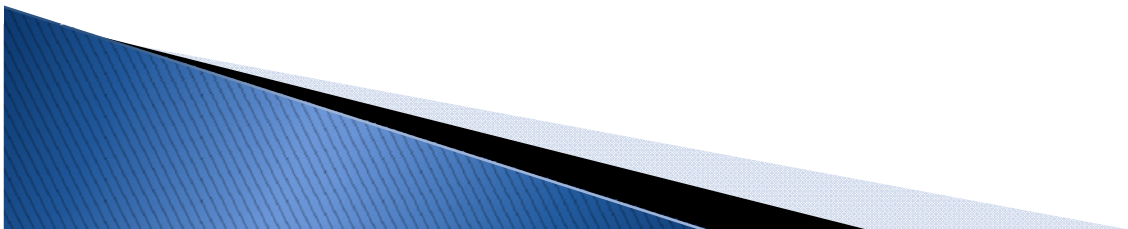
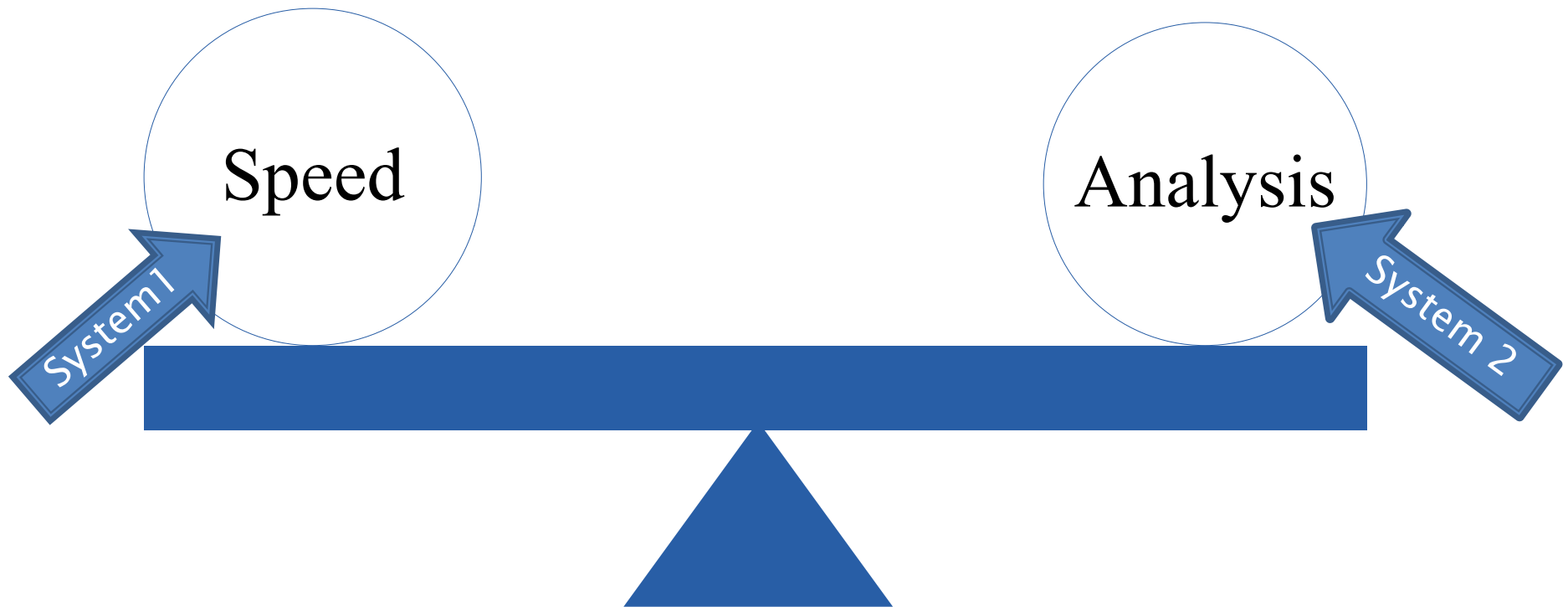
- ▶ System 1



- ▶ System 2

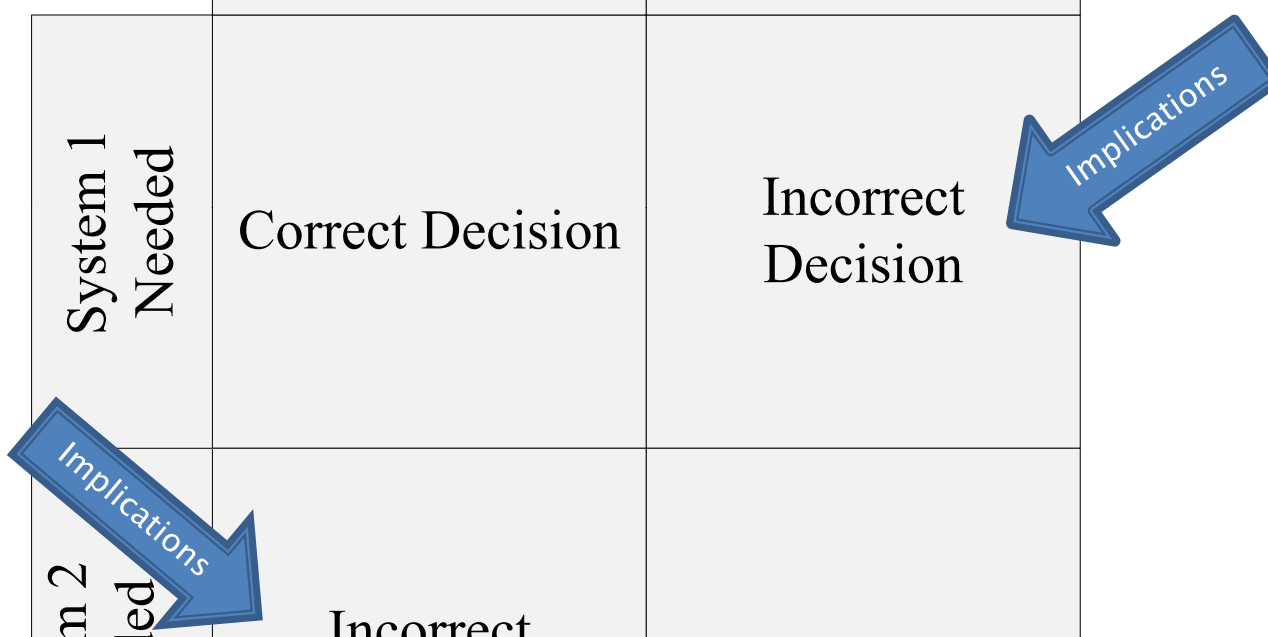
$$17 \times 24$$

System 1 vs. System 2 Thinking



System 1 and 2 Errors and Implications

	System 1 Actually Used	System 2 Actually Used
System 1 Needed	Correct Decision	Incorrect Decision
System 2 Needed	Incorrect Decision	Correct Decision



Group Exercise – System 1 v. System 2

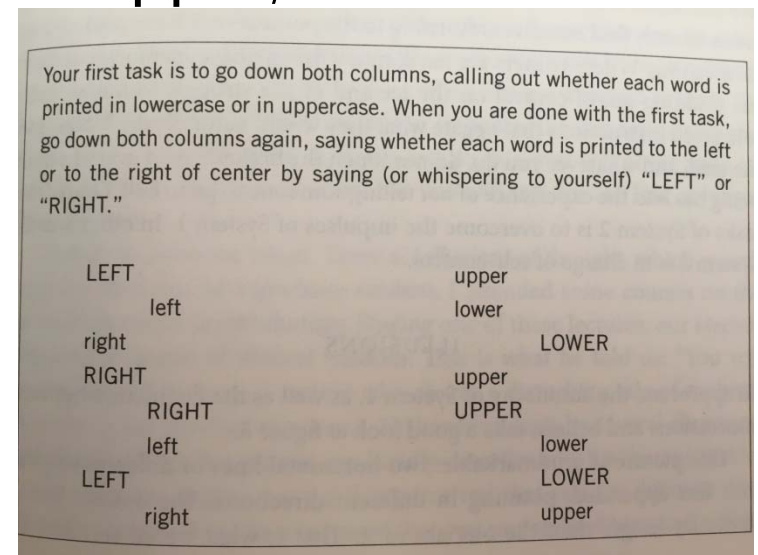
- ▶ Local government finance examples of System 1
- ▶ Local government finance examples of System 2
- ▶ Applying the wrong system
- ▶ . . .



Group Exercise – Follow-up

- ▶ Conflict between the two systems
 - The invisible gorilla
 - <http://www.theinvisiblegorilla.com/videos.html>
 - Reading exercise – left/right and upper/lower

- ▶ Cognitive fatigue
- ▶ Ego depletion
- ▶ Israeli parole judges



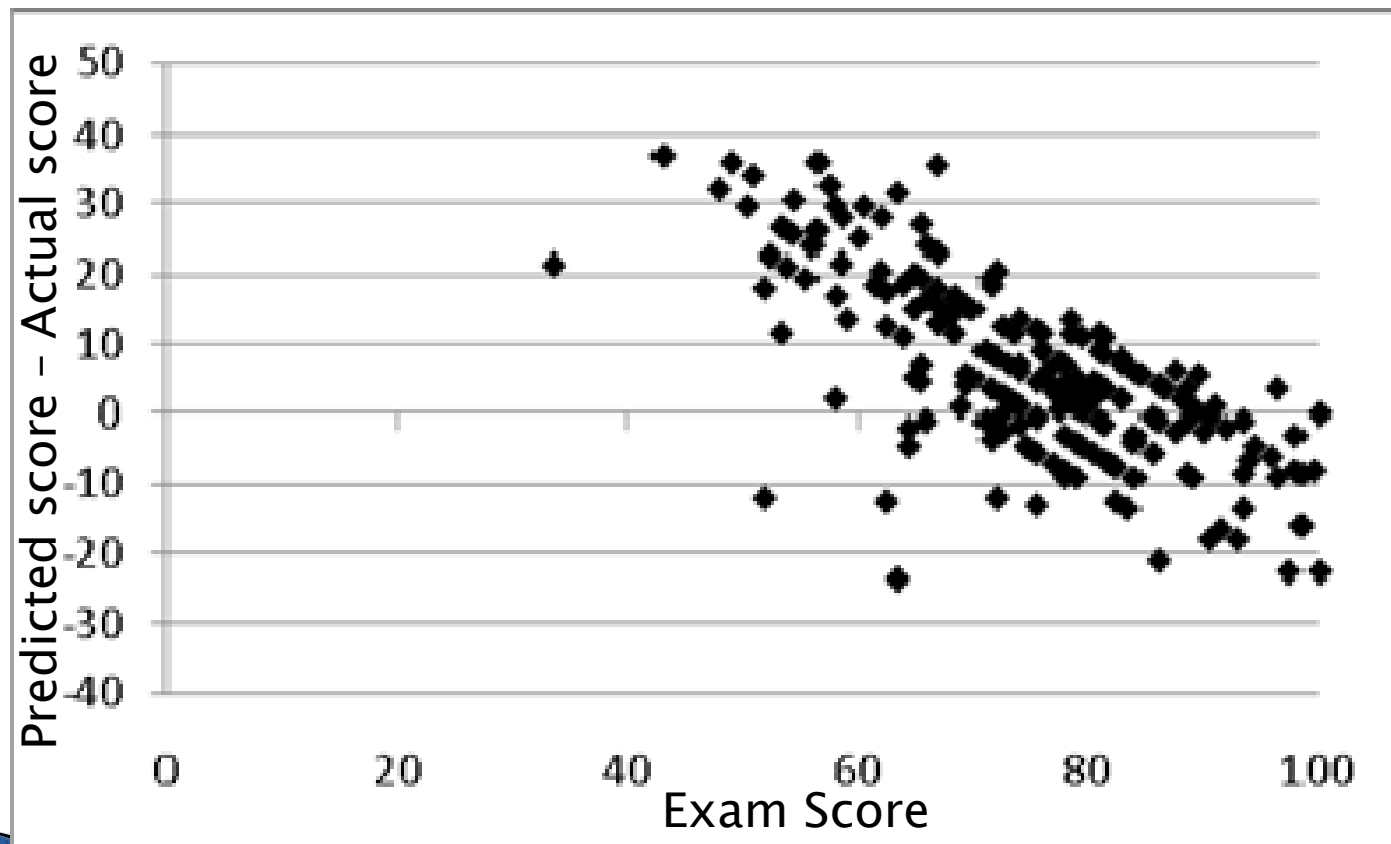
Group Exercise – Cognitive load and depletion

- ▶ Identify some examples:
 - Local government decisions that would benefit from cognitive strain that would engage System 2
 - Local government decisions that might be impaired by cognitive load
- ▶ Debrief



Overconfidence

- ▶ Student context



Overconfidence

- ▶ Facilitator of other biases
- ▶ Overprecision
 - But what about experts?
 - Ben-David et al. (2010)
 - 10,000 forecasts by financial officers of thousands of firms
 - 33% of the time actual returns fell within 80% confidence intervals
- ▶ Overestimation
 - Belief that situation/event is better than it really is
 - Planning fallacy
 - Infrastructure projects (Flyvbjerg 2003)

Overconfidence

- ▶ Entrepreneurial delusions
- ▶ Small business five-year survival rate = 35%
- ▶ Entrepreneurs estimate their own chances of success at 60%
- ▶ Illusion of control
- ▶ 90% of drivers believe that they are better than average

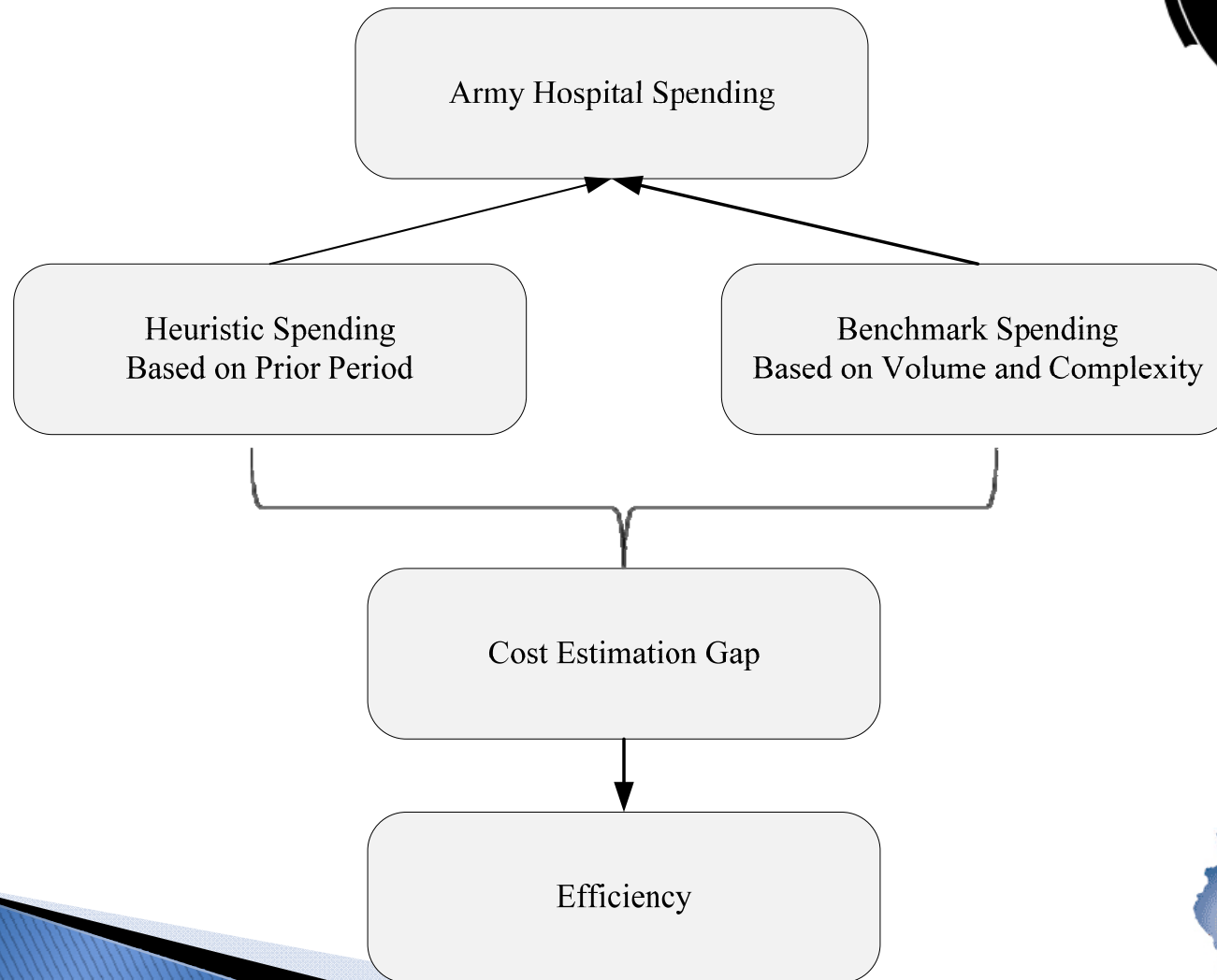


Group Exercise – Overconfidence

- ▶ Overprecision examples
- ▶ Overestimation examples
- ▶ Debrief



Anchoring



Anchoring

- ▶ Start with an anchor
- ▶ Adjust accordingly
- ▶ Upside . . .
 - Simplifies decision-making
- ▶ Downsides
 - We rarely adjust enough
 - Our anchors are not always rational



Group Exercise – Anchoring



- ▶ Identify some examples of purposeful anchoring
 - Weigh the benefits and costs
- ▶ Identify some examples of inadvertent anchoring
 - What are the effects?



Insensitivity to base rates

- ▶ Failure to consider prior probabilities when making decisions
- ▶ Tversky and Kahneman
 - Personality descriptions
 - 100 randomly selected engineers and lawyers
 - One group told that 30 were engineers and 70 were lawyers
 - One group told that 70 were engineers and 30 were lawyers
 - Probability disregarded by participants



Conjunction fallacy: less is more

- ▶ Representativeness heuristic
- ▶ Assuming a conjunction is more probable than a single component
- ▶ Laziness of System 2
- ▶ Example
 - Accounting student is bright and interested in social issues
 - What is the likelihood that student will work as an auditor?
 - What is the likelihood that student will work as an auditor and volunteer with local charity?



Insensitivity to sample size

- ▶ Law of small numbers
- ▶ Tversky and Kahneman
 - Two hospitals – one town
 - Larger hospital records 45 births each day
 - Smaller hospital records 15 births each day
 - For one year, each hospital recorded the number of days on which more than 60% of babies born were boys
 - Question: Which hospital recorded more such days?

Group Exercise – Sampling/probabilities

- ▶ Local government finance examples of:
 - Insensitivity to base rates
 - Conjunction fallacy
 - Insensitivity to sample size – law of small numbers
- ▶ Debrief



Escalation of commitment

- ▶ Continuing to spend time, effort, and resources to a previously selected action although a rational decision would not support this continued investment
- ▶ Cutting losses
- ▶ Evaluating sunk costs



Confirmation trap

- ▶ Seeking confirming evidence
- ▶ Exercise with number patterns
 - 2 – 4 – 6
 - Next . . .



Hindsight bias

- ▶ The mother-in-law effect
- ▶ Having knowledge of the outcome serves as an anchor
- ▶ Examples
 - Assign probabilities to 15 possible outcomes of President Richard Nixon's visit to China and Russia in 1972
 - Sporting events
- ▶ Blaming decision-makers for good decisions that don't pan out
- ▶ Giving little credit to decision-makers when decisions are successful



Group Exercise – Escalation, Confirmation, and Hindsight

- ▶ Identify local government finance examples of:
 - Escalation of commitment
 - Confirmation bias
 - Hindsight bias
- ▶ Debrief



Issues of fairness

- ▶ Two outcomes that are the same, but we evaluate fairness differently
- ▶ Example from Kahneman
 - One frame
 - Company making a small profit
 - Community experiencing recession but no inflation
 - Decrease wages 7%
 - Another frame
 - Company making a small profit
 - Community experiencing recession AND inflation of 12%
 - Increase wages 5%

Group Exercise – Issues of Fairness

- ▶ Identify local government examples that involve issues of fairness
 - Within the government
 - To constituents
- ▶ Debrief



Availability heuristic

- ▶ We assess the frequency or probability of an event by the ease with which we remember an instance or occurrence
- ▶ Retrievability
- ▶ Ease with which the events can be connected
- ▶ Implication of salient/vivid events
- ▶ Slovic et al.
 - Relative likelihood of:
 - Death by stroke or accident?
 - Death by lightning or botulism?
 - Media impact
- ▶ Decisions to select suppliers and in performance appraisals



Misconceptions of chance

- ▶ Representativeness heuristic
- ▶ Believing probabilities will even out
- ▶ Which is more likely:
 - H-T-H-T-T-H or H-H-H-T-T-T
- ▶ Examples
 - What color do you pick on the roulette wheel following a long string of red?
 - Is there such a thing as a “hot hand”?

Regression to the mean

- ▶ Assume future outcomes can predicted with past outcomes
- ▶ Example in training
 - Praising
 - Smooth landing by students in flight school
 - Then a poorer landing followed
 - Harshly criticizing
 - Poor landing
 - Better landing followed
 - Dangerous conclusions

Group Exercise – Availability, Chance, and Regression

- ▶ Identify local government examples of:
 - Availability heuristic
 - Misconceptions of chance
 - Regression to the mean
- ▶ Consider both inside-government examples and constituents' perspectives
- ▶ Debrief



Framing effects

- ▶ Framing matters
- ▶ Examples
 - Woman buys two tickets to the theater. She arrives at the theater to discover the tickets are missing. Will she buy two more tickets to see the play?
 - A woman goes to the theater intending to buy two tickets. She arrives at the theater to discover that the cash she intended to use is missing. Will she use a credit card to buy the tickets?
- ▶ Mental accounting

Framing and the reversal of preferences

- ▶ We make inconsistent decisions based on framing
- ▶ Example (Tversky and Kahneman 1981)
 - Imagine that the U.S. is preparing for the outbreak of an unusual disease which is expected to kill 600 people. Two programs have been proposed:

72% – A

Program A: 200 people will be saved

- Program B: There is a 1/3 probability that 600 will be saved, and a 2/3 probability that no people will be saved

A = C

B = D

78% – D

Program C: 400 people will die

- Program D: There is a 1/3 probability that no one will die, and a 2/3 probability that 600 people will die



Prospect theory: S-shaped value function

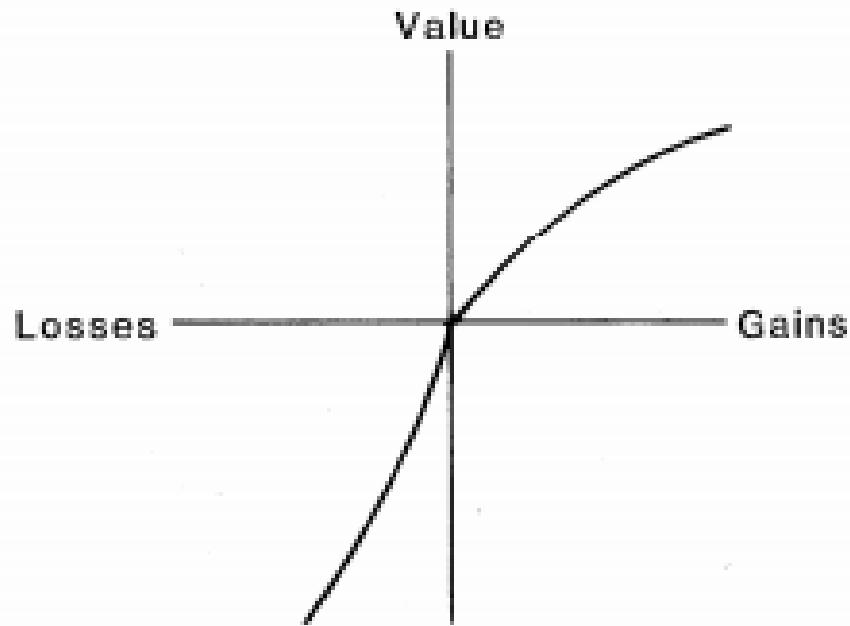


Fig. 1. A hypothetical value function.

A bias so simple that even monkeys are affected by it . . .



Group Exercise – Framing and Prospect Theory

- ▶ Identify local government finance examples of:
 - Framing effects
 - Reversal of preferences
 - Loss aversion
- ▶ Debrief



Endowment effect

- ▶ It's worth more because it's mine
- ▶ Examples (Thaler)
 - A man owns a case of good wine he bought 20 years before for \$5 per bottle. Merchant offers to buy wine at \$100 per bottle.
 - A man who mows his own lawn receives an offer from his neighbor's son to mow the lawn for \$8. The man wouldn't mow his neighbor's same-sized lawn for less than \$20.
- ▶ Decision-making implications

Group Exercise – Endowment Effect

- ▶ Identify local government finance examples of endowment effect
- ▶ Identify instances of endowment effect by transacting parties
- ▶ Debrief

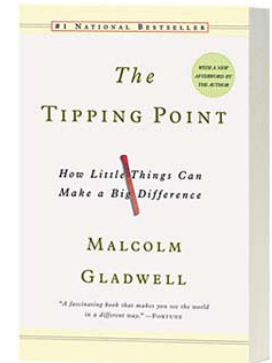
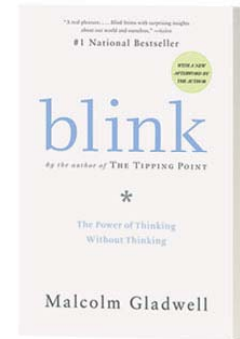
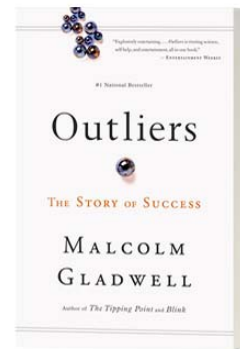
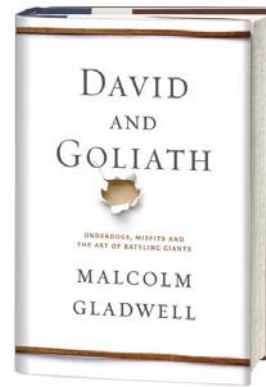
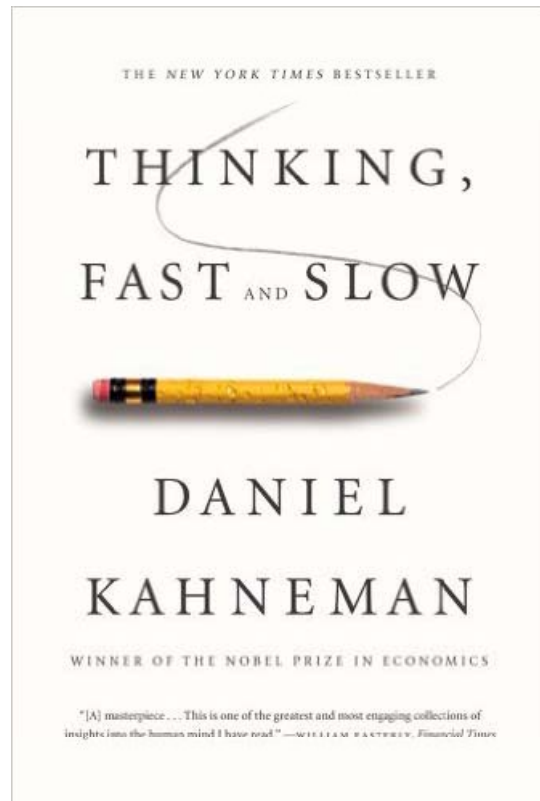


Conclusions

- ▶ Hard to mitigate threats to rational decision-making
- ▶ Best practices
 - System 1 v. System 2
 - Overconfidence
 - Anchoring
 - Insensitivity to base rates
 - Conjunction fallacy
 - Insensitivity to sample size – law of small numbers
 - Escalation of commitment
 - Confirmation trap
 - Hindsight bias
 - Issues of fairness
 - Availability heuristic
 - Misconceptions of chance
 - Regression to the mean
 - Conjunction fallacy
 - Framing effects
 - Prospect theory and loss aversion
 - Endowment effect
- ▶ Post-survey



Further reading . . .



Questions? Thoughts?

