

Take Home Final Exam

FIN 750
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Maximum score for each question is in brackets. Please, make your answers as short as you can.

1. Choose *three* of the following five terms, define each one you choose and briefly describe the significance of each one to game theory. (Be sure your definitions are *clear* and *concise*.) [Total of 15]

- (a) [5] Subgame-perfect equilibrium
- (b) [5] Mixed-strategy equilibrium
- (c) [5] Winner's curse
- (d) [5] Brinkmanship
- (e) [5] Strictly dominated strategy

2. [10] A German property developer disappeared, leaving behind billions in debt. "He told me he was going on a trip to Tuscany," said an associate. "I assume that means he is definitely not in Tuscany" (*New York Times*, April 14, 1994). Comment from a strategic perspective.

Credibility and Brinkmanship

3. [15] When political terrorists hijack an airplane, one or more governments negotiate with them. Examine the strategic issues that arise in this setting. Include the strategic moves each side can make in anticipation of the event. Consider carefully the credibility of the strategic moves made in advance as well as that of those made during the incident. Your answer should be about 500 words in length. Brevity and succinctness will count in the grading.

4. [7] A. Mr. Hanssen states that he was dreaming to spy from the time when he read Adrian Russell Philby's book at age 14. Please comment on the trustworthiness of this statement.

“The FBI agent Robert Hanssen modelled himself on Kim Philby. For 16 years he conducted a passionate love affair with the KGB,”

[Christopher Andrew, “The long betrayal,” The Times, London \(UK\); February 22, 2001](#)

B. [8] F.B.I. official statement connects the arrest of Mr. Hanssen with documents that were received from a Russian source. Please, comment on credibility of this statement. (Hint: Consider the incentives to issue such a statement in case if the statement is untrue.)

“The efforts of the joint mole hunt were finally rewarded late last year, when a Russian source provided what seems to be virtually the entire K.G.B. file on the Hanssen case.”

[From James Risen, “Spy-Hunt Team Followed Trail To F.B.I. Agent,” New York Times, Feb 24, 2001](#)

Signaling & more

5. [15] Peter Robinson’s *Snapshots from Hell: The Making of an MBA* argues that business schools admit bright students and then put them through two years of useless and expensive torture. If the aim is to help corporations select young managers, a reviewer asked, why not “simply replace their personnel departments with Stanford admissions officers, and eliminate the spurious education? Does the very act of throwing away a lot of money and two years of one’s life demonstrate a commitment to business that employers find appealing?” What answer can you give based on our analysis of strategies in situations of asymmetric information?

Bargaining Theory

6. [15] Consider the bargaining situation between Compaq Computer Corporation and the California businessman who owned the Internet address www.altavista.com. Compaq, which had recently taken over Digital Equipment Corporation, wanted to use the businessman’s Web address for Digital’s Internet search engine, which was then accessed at www.altavista.digital.com. Compaq and the businessman apparently negotiated long and hard during the summer of 1998 over a selling price for the latter’s address. Although the businessman was the smaller player in this game, it appears that the final agreement entailed a \$3.35 million price tag for the Web address in question. Given this information, comment on the likely values of the outside options (BATNA in Dixit textbook) for these two players,

their bargaining strengths or levels of impatience, and whether a cooperative outcome appears to have been attained in this game. [from Dixit, p. 548]

See details at:

[Bernhard Warner, "Domain name shell game," Mediaweek, August 24, 1998](#)

[Don Clark and Bart Ziegler, "Digits," Wall Street Journal; New York; September 24, 1998](#)

[Joshua Quittner, "What's in a name?," Time, New York; August 31, 1998](#)

[Doug Levy, "Compaq finds bonus in Digital," USA Today, September 21, 1998](#)

Auction Theory

7. [15] The auction that is probably seen most commonly on TV is an open-bid, ascending-price auction. Which of the following auctions is (under general conditions) most closely linked to the open-bid, ascending-price auction, in the sense that the two auction types are most likely to produce (approximately) the same outcome [the same winner and (roughly) the same price]?

- (a) A closed-bid, first-price auction
- (b) A closed-bid, second-price auction
- (c) An open-bid, descending-price auction
- (d) An open-bid, alternating-price auction