

Introduction to Sports Economics Course

ESEA Groningen September 1-2, 2016

John Siegfried, Professor Emeritus at Vanderbilt University (USA) organized a panel session for the European Sports Economics Association Meeting on September 2, 2016 in Groningen, Netherlands. Six sports economists representing five different countries described the Introduction to Sports Economics course they teach at their institution.

The participants were Ross Booth (Monash University, Victoria, Australia), Dennis Coates (University of Maryland Baltimore County, Maryland, USA), Paul Downward (Loughborough University, Leicestershire, U.K.), Arne Feddersen (University of Southern Denmark, Esbjerg, Denmark), Pamela Wicker (German Sport University, Cologne, Germany), and John Siegfried (Professor Emeritus Vanderbilt University [USA] and Visiting Professor of Economics (University of Adelaide, Australia).

Each participant was asked to address the same eight questions pertaining to their course: what subjects are included, what subjects are excluded, what narrow essential topics are included, what are the key assigned articles, what textbook (if any) is used, what are some sample free response exam questions, what are some sample multiple choice questions (if relevant), and what are some example homework assignments?

The Power Point slides used by each participant follow.

Ross Booth Monash University, Melbourne

Topics covered

- Micro principles and sport
 - Comparative advantage; ticket distribution (queuing vs. random distribution), scalping and economic welfare (efficiency vs equity); monopoly pricing; strategic pricing and price discrimination
- Sports broadcasting – no local TV revenue; national contracts
- Profit-maximizing sports franchises – A-League; NBL; NRL
- Sports events and league behaviour
- Competitive balance – competition b/w sports/leisure
 - Concepts and measurement
- Labour markets
- Professional team sports leagues (Australia and OS)
 - Win-maximizing clubs; two-team league model; market size; labour market devices; revenue sharing rules; sports league comparisons
- Public Subsidy of a Mega Event, Stadium or Team

Topics not covered

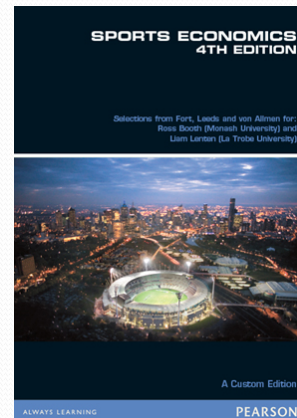
- College Sports (US)
- Discrimination
- Sports Betting
- Stadiums
- History of Player Pay (US)
- Labour Relations (US)

Key Concepts

- Analysis of the devices where clubs are win maximisers (subject to a budget constraint/balanced budget) rather than profit maximisers
- Free agency results in a less equal distribution of player talent but higher wages under win maximisation
- The invariance principle does not always hold – depends on the objectives of teams, wage levels relative to revenues, whether sales or trades are allowed, and whether a draft is combined with a team salary cap
- Win max: cash sales (partially) undermines only if wage level high as club tries to avoid loss
- Win max: unbalanced trades \Rightarrow partial undermining of draft to avoid loss if wage is high (same effect as cash sales). Addition of affordable team salary cap removes incentive to trade net talent
- Win max: Draft and team salary cap complement one another – penalty for salary cap cheating can be loss of draft picks
- Win max: Gate sharing and league-revenue sharing (distinguish 'league-revenue sharing' and 'increase in shared league revenue') tend to equalise playing strengths

Textbook and Other Key Readings

- *Sports Economics: Selections from Fort, Leeds and von Allmen, 4e*, Pearson Custom Publishing, 2014. This custom book is compiled from *Sports Economics 3e*, Fort 2011, and *The Economics of Sports 5e*, Leeds and von Allmen 2013



Most Important Readings

- Booth, R. (2000) *Labour Market Intervention, Revenue Sharing and Competitive Balance in the VFL/AFL, 1897-1998*. Unpublished PhD.
- Booth, R. (2009). For the Student: Sports Economics. *Australian Economic Review*
- Macdonald, R., & Booth, R. (2007). Around the Grounds: A Comparative Analysis of Football in Australia. In B. Stewart (Ed.), *The Political Economy of Football in Australia*. Melbourne: Melbourne University Press.
- Macdonald, R., & Borland, J. (2004). Professional Sports Competitions in Australia. In R. Fort & J. Fizel (Eds.), *International Sports Economics Comparisons*. Westport, CT: Praeger Publishers
- Siegfried, J., & Zimbalist, A. (2006). The Economic Impact of Sports Facilities, Teams and Mega-Events. *The Australian Economic Review*, 39(4), 420-427.
- Szymanski, S., & Zimbalist, A. (2006). *National Pastime: How Americans Play Baseball and the Rest of the World Plays Soccer*. Washington, D.C.: Brookings Institution Press

Assessment

- Group written research paper (30%)
- Group oral presentation of research paper idea mid-semester (10%)
- Group oral presentation of research paper (10%)
- Mid-semester test (10%)
- Final 2-hour examination (40%)

Group Written Research Paper

- Group identifies and analyses a current sports economics issue/problem in either Australia (local, state or national) or overseas
- Students form small groups (about 4) interested in a particular event, or sport, or club or team, or any other sporting group/body
- Using the economic analysis they are learning in the course, suggest an appropriate policy response/solution
- Learn teamwork; time management; negotiation; research skills; oral and written communication skills
- Academic had much more engagement with students
- Students get immediate and better feedback!

Exam Questions

- Using the two-team league model, compare and contrast the free agency outcome under profit maximisation with the free agency outcome under win maximisation. Explain how and why the outcomes are different?
- In the win-maximising case, assuming there is a player draft but no salary cap, use diagrams to illustrate and explain the likely effect on competitive balance of the cash sale of players compared with the trade of players.
- Using TR and AR diagrams, illustrate and explain whether gate revenue sharing increases competitive balance in a league comprised of win-maximising clubs.
- Suppose a league comprised of win-maximising clubs experiences an increase in national TV broadcast rights revenue which it shares equally amongst the clubs ('an increase in shared league revenue'). Use TR and AR diagrams to illustrate and explain the likely effect of this increase in revenue on competitive balance.

Dennis Coates
University of Maryland
Baltimore County

Essential Topics

- Demand for sport
- Uncertainty of outcome hypothesis and consumer choice
- Competitive balance
- Labor market for players
- Public finance—stadiums
- American college and university sports

Excluded topics

- Sports participation
- Competition in the sports broadcast market
- Sports gambling

Essential Narrow Concepts

- What is “the firm?” the team or the league
- History of professional sports leagues
- Players’ unions
- “Free agency”
- Payroll and/or “salary” caps
- Revenue sharing and its effects
- Competition among locations for sports franchises
- Local economic impact of sports teams and facilities
- Economics of one-off events: Olympics, World Cup, etc.

Textbooks or collections of readings

- Fort – Sports Economics
- Quirk and Fort – Pay Dirt
- Fort and Winfree – 15 Sports Myths
- Berri, Brook and Schmidt - Wages of Wins
- Bradbury – The Baseball Economist

Most important articles

- Rottenberg – 1956
- Neale - 1964
- Scully – 1972
 - Krautmann - 1999
- Hakes and Sauer - 2006
- Coates and Humphreys – 1999

Exam Questions

- A baseball player earns \$10,650,000 a year. You estimated that an increase by 1 in the number of games a team wins raises team revenues by \$550,000. The general manager asks you if this player is earning that salary. Explain how you would decide.
- A) Can teams that show an operating loss be valuable to the owner? B) Franchises with a history of losing on the field also lose money for the ownership. True, false or uncertain. Explain.

Exam Question

- Pete Rozelle was Commissioner of the National Football League. The “Rozelle Rule” was a determination that if a team signed a free agent that it owed compensation to the player’s original team. If the two clubs could not work out a deal, the Rozelle would award players or draft picks from the signing team to the original team. In Mackey vs. the NFL (1976) the opinion of the Supreme Court includes the following:
- In support of their contention that the restraints effected by the Rozelle Rule are not unreasonable, the defendants asserted a number of justifications. First, they argued that without the Rozelle Rule, star players would flock to cities having natural advantages such as larger economic bases, winning teams, warmer climates, and greater media opportunities; that competitive balance throughout the League would thus be destroyed; ... and perhaps the demise of the NFL, at least as it operates today.
- Explain why you agree or disagree with the argument made by the NFL. Reference to specific articles you read will make for a better answer.

Short essay assignment

- Player/team salary arbitration brief
- Op-ed pro/con stadium subsidy



Paul Downward Loughborough University Leicestershire, UK



Essential Topics

1. The structure of the sports economy: Markets and the rationale for policy intervention
2. Sports participation: Theory, evidence and policy outcomes
3. Goods demand
4. Supply of participant sport: Private sector, public provision and voluntary clubs and volunteers
5. Sports leagues as markets
6. Attendance and broadcast demand
7. The labour market: Regulation and impacts
8. Tournaments as an organising principle
9. Individual sports and sports events
10. Economic and welfare impacts of investment in sports infrastructure, success and events

Topics excluded

1. Governance
2. Marketing
3. E-media and sport
4. Dynamic pricing
5. Production Efficiency (in detail e.g. coach, manager, team production, clubs performance)
6. Sporting malfeasance: gambling, cheating, violence, doping

Essential 'narrow' topics

1. Allocative/productive efficiency in markets
2. Club goods v private and public goods in sports supply
3. Cross-subsidy impacts on competitive balance
4. Drivers of Demand
 - a) Attendance
 - b) Media
5. How removal of labour market restrictions affects wages?
6. Reliability etc. of Economic impact analysis

Key Books

1. Downward, P.M. Dejonghe, T. and Dawson, A. (2009) *Sports Economics: Theory, Evidence and Policy*, Elsevier: London.
2. Supplements
 - a) Fort, R.D. (various) *Sports economics*, Upper Saddle River, NJ: Prentice Hall
 - b) Leeds, M. and von Allmen, P. (various) *The economics of sports*, Boston, MA: Pearson/Wesley Addison
 - c) Robinson, L.A. , Chelladurai, P., Bodet, G., and Downward, P. (2012) *International Handbook of Sport Management*, Routledge: London.

Key Articles (seminal/summary)

1. Downward, P.M. and Riordan, J. (2007) Social Interactions and the Demand for Sport: An Economic Analysis, *Contemporary Economic Policy*, Vol. 25, No. 4, pp 518-537
2. Humphreys, B.R. and Ruseski, J.E. (2011). Economic Analysis of Participation and Time Spent in Physical Activity, *B.E. Journal of Economic Analysis & Policy*, (Contributions), vol. 11, issue 1, article 47.
3. Wicker, P., Breuer, C and Pawlowski, T. (2009) Promoting Sport for all to Age-specific Target Groups: The Impact of Sport Infrastructure, *European Sport management Quarterly*, Vol 9 No 2, 103-118
4. Fort, R. and Quirk, J. (1995) Cross-Subsidization, Incentives, and Outcomes in Professional Team Sports Leagues, *Journal of Economic Literature*, Vol. 33, No. 3. pp. 1265-1299.
5. Kesenne, S. (2011) Do sports clubs maximise wins or profits? And does it make any difference? In Robinson, L.A. , Chelladurai, P., Bodet, G., and Downward, P. (2012) (eds) *International Handbook of Sports Management*, Routledge: London.
6. Neale, W.C. (1964) The Peculiar Economics of Professional Sports: A Contribution to the Theory of the Firm in Sporting Competition and in Market Competition, *The Quarterly Journal of Economics*, Vol. 78, No. 1 pp. 1-14
7. Borland, J. and MacDonald, R. Demand for Sport (2003) *Oxford Review of Economic Policy*, Vol 19, No 4, pp478-502.
8. Forrest, D., Simmons, R., and Buraimo, B. (2005) Outcome uncertainty and the couch potato audience, *Scottish Journal of Political Economy*, 52, 4: 641-661.
9. Scully, G. W. (1974) Pay and Performance in Major League Baseball. *American Economic Review*, Vol 64, 915-30.
10. Frick, B. (2007) The Footballer Players' Labor Market: Empirical Evidence from the Major European Leagues, *Scottish Journal of Political Economy*, Vol 54, No 3, pp422-446
11. Crompton, J. (2006) Economic Impact Studies: Instruments for Political Shenanigans, *Journal of Travel Research*, Vol 45, pp67-82.

Example Exam questions

For each answer you are expected to make reference to relevant theoretical and empirical material

1. Carefully explain why sports clubs are good examples of club goods. How can the development of sports clubs be explained as a result of both market and government failure?
2. Outline how and why sports leagues have traditionally tried to control their labour and product markets. Is there any evidence that these behaviours have achieved their desired aim?
3. Indicate how the traditional theory of consumer demand can be modified to examine the attendance demand for professional sports. What does the evidence suggest are the main influences on attendance?
4. Why can it be argued that a competitive labour market provides an appropriate wage for players? Is there any evidence to support players receiving such a wage in sports leagues?
5. What are the major flaws that have been made in many economic impact studies that would need to be avoided to properly evaluate the economic impact of London 2012?

Example Assignment

(3000 words!)

Write a report that advises Sport England about participation. The report can be structured as you see fit, but should contain an executive summary and distinct sections that provide the following:

1. An outline of **either** the income-leisure trade off model **or** the time-allocation model indicating how it can be used to predict sports participation
2. For a sports activity of your choice, a description of the participation rate, or frequency of participation according to gender, age, and socio-economic classification. (See notes below for data sources)
3. Uses the model of part (1) to interpret the empirical evidence in part (2)
4. Advises what the theory suggests about the possibility and scope of policy aimed at further promoting sports participation in your activity



Arne Feddersen University of Southern Denmark, Esbjerg



Topics covered

- The 'production' of sports: owner objectives
- Market organization: the role and effects of leagues and sports associations
- Uncertainty of outcome and demand for sports
- Competitive balance and remedies for competitive imbalance
- Pricing of sport products
- Superstar effects in sports
- Financial problems of clubs and leagues and regulatory remedies
- Government and the sports business: subsidies and regulation
- Ethical issues in sports markets: doping, corruption, cheating, and match-fixing

Topics not covered

- College Sports (US)
- Labor market discrimination
- Sports betting and gambling
- Sports participation
- Production efficiency
- Tournament theory
- Dynamic pricing
- Advertising

Essential narrow concepts

- Basic microeconomic: price elasticity, price discrimination, income elasticity
- IO: What is “the firm?” – the team or the league?
- Owner objectives: profit-maximization, revenue maximization, utility maximization (Europe vs. North America)
- Measures of competitive balance
- Instruments affecting competitive balance: revenue sharing, payroll caps, luxury tax, (draft)
- Regulations: Bosman ruling, UEFA Financial Fair Play
- Regional economic impact of sporting events: Economic Impact Analysis, Cost-Benefit-Analysis
- Multi-sided markets

Textbooks or collections of readings

- Leeds & von Allmen: *The Economics of Sports*, International Edition. Pearson.

Assigned articles

- Rottenberg, S. (1956). The Baseball Player's Labor Market. *Journal of Political Economy*, 64, 242–258.
- Neale, W.C. (1964) The Peculiar Economics of Professional Sports: A Contribution to the Theory of the Firm in Sporting Competition and in Market Competition. *The Quarterly Journal of Economics*, 78(1), 1–14.
- Rosen, S. (1981). The Economics of Superstars. *American Economic Review*, 71(5), 845–858.
- Adler, M. (1985). Stardom and Talent. *American Economic Review*, 75(1), 208–212.
- Fort, R. and Quirk, J. (1995) Cross-Subsidization, Incentives, and Outcomes in Professional Team Sports Leagues. *Journal of Economic Literature*, 33(3), 1265–1299.
- Borland, J., & MacDonald, R. (2003). Demand for Sport. *Oxford Review of Economic Policy*, 19(4), 478–502.
- Preston, I., & Szymanski, S. (2003). Cheating in Contests. *Oxford Review of Economic Policy*, 19(4), 612–624.
- Késenne, S. (2005). Do We Need an Economic Impact Study or a Cost-Benefit Analysis of a Sports Event? *European Sport Management Quarterly*, 5(2), 133–142.
- Preuß, H. (2005). The Economic Impact of Visitors at Major Multi-sport Events. *European Sport Management Quarterly*, 5(3), 281–301.

Assessment

The exam consists of 2 parts each weighting 50%.

- Group oral presentation of a research paper (30 minutes)
- Written exam (2 hours)

Example Exam questions

1. Please apply the standard deviation to the data in appendix 1 and try to answer the question whether the Polish Ekstraklasa is less competitively balanced than the Bosnia & Herzegovinian Premier League during the time period 2009 – 2013.
2. League organizations, especially in North American team sports, have developed several measures to remedy competitive imbalance. Please describe the following two instruments and explain theoretically if these measures can increase competitive balance: (1) Salary Cap, (2) Reverse-Order Entry Draft.
3. Regarding the pricing of tickets for professional football matches, the following two cases can be observed frequently: (A) Different seats within the same stadium and for the same match have different prices, for example if they are located on different spots (e.g. behind the goal, at the middle line); (B) The price for the same seat is cheaper for some consumer groups (e.g. retired persons, students). Please answer the following question. Are case (A), case (B), or both cases an example for price discrimination?

Example Exam questions

1. Explain why it is necessary to exclude expenditures made by locals when estimating the economic impact of a sport event on a host region? Is there a sub-group of locals whose expenditures does generate an economic impact? If yes, please explain why.
2. Performance enhancing drugs (PED) have been a longstanding issue in the world of sports. Sports economists have used the Prisoner's Dilemma as a model to understand and explain the decision-making process regarding doping. Please use the prisoner's dilemma model as an explanation of why an athlete would choose to dope or not to dope.

Pamela Wicker
German Sport University
Cologne

1. Essential broad topics included in the course

- Economics of physical activity and sport participation
- Sport supply: Private vs. public vs. non-profit sector
- Non-profit economics (financing sport clubs, voluntary work)
- Uncertainty of outcome and competitive balance, tournaments
- Regulations in sports leagues (open vs. closed leagues, salary cap, draft, 50+1-rule etc.)
- Financing sports leagues (broadcast rights, revenue sharing, transfer fees, fan bonds)
- Demand for spectator sport (inelastic pricing, minor sports)
- Labor market for players (player contracts and principal-agent problems, salary determinants, Moneyball)
- Economics of sport events (economic impact, cost-benefit analysis, intangible effects)

2. Topics excluded from the course

1. Advertising (covered elsewhere)
2. Cheating in sports, performance enhancing drugs (covered elsewhere)
3. Sports gambling
4. Violence in sports
5. American college and university sports

3. Essential narrow concepts included

1. The law of diminishing utility does not necessarily apply to active sport participation
2. Sporting success and hosting sport events do not automatically lead to increased participation levels in the population
3. Not only the amount of revenues in each category is relevant, but also where the money comes from
4. Uncertainty of outcome does not necessarily increase demand
5. Salary cap does not improve competitive balance
6. Inelastic demand does not mean that teams should increase ticket prices

4. Textbooks and collections

1. Downward, P., Dawson, A., & Dejonghe, T. (2009). Sports economics. Theory, evidence, and policy. Amsterdam et al.: Elsevier.
 2. Heinemann, K. (1995). Einführung in die Ökonomie des Sports [Introduction to the economics of sport]. Schorndorf: Hofmann.
- To be added (just published):
3. Deutscher, C., Hovemann, G., Pawlowski, T., & Thieme, L. (Eds.) (2016). Handbuch Sportökonomik [Handbook sports economics]. Schorndorf: Hofmann.



5. Most important articles

1. Franck, E., & Nüesch, S. (2008). Mechanisms of superstar formation in German soccer: empirical evidence. *European Sport Management Quarterly*, 8(2), 145-164.
2. Orłowski, J., & Wicker, P. (2015). The monetary value of voluntary work – conceptual and empirical comparisons. *Voluntas*, 26(6), 2671-2693.
3. Weimar, D., & Fox, A. (2012). Fananleihen als Finanzierungsmöglichkeit von Sportclubs? [Fan bonds as a mean of financing sport clubs?] Eine Bestandsaufnahme am Beispiel der Fußballbundesliga. *Corporate Finance*, 4, 181-187.
4. Weimar, D., & Wicker, P. (in press). Moneyball revisited: Effort and team performance in professional soccer. *Journal of Sports Economics*.
5. Weimar, D., Wicker, P., & Prinz, J. (2015). Membership in sport clubs: A dynamic panel analysis of external organizational factors. *Nonprofit and Voluntary Sector Quarterly*, 44(3), 417-436.
6. Wicker, P., & Breuer, C. (2014). Examining the financial condition of sport governing bodies: The effects of revenue diversification and organizational success factors. *Voluntas*, 25(4), 929-948.

6. Exam questions to separate good from poor students

1. How does the sport market differ from other markets? Please explain how sport demand, sport supply, and market structures differ from other industries.
2. "Football Bundesliga clubs are utility maximizers, while teams in the North American professional sports leagues are profit maximizers." What arguments can you advance that support or question this statement?
3. What was decided in the Bosman ruling (1995)? What consequences did it have on professional sports in Europe? Please do not only elaborate on direct, but also on indirect consequences.
4. Suppose the German Football League plans the introduction of a salary cap for first division teams. Please discuss the consequences this would have on German and international football.

7. MC question

Which of the following statements on **fan bonds** are correct?

- a) Issuing fan bonds leads to changes in the ownership structure of the club.
- b) Only clubs adhering to the 50+1-rule are allowed to issue fan bonds.
- c) Fan bonds are means of short-term financing by way of credit.
- d) Fan bonds have to be emitted through banks because only banks have the required infrastructure to issue and manage bonds.

- A only statements a) and c) are correct
- B only statements b) and d) are correct
- C only statements a), c) and d) are correct
- D only statement c) is correct
- E none of the above statements is correct

8. Problem set questions

- Course is a lecture
- Students have to take a written exam at the end of the semester (2-3 open questions, 15 MC questions, 90 minutes)
- Short essays are not used in this course

John Siegfried

Vanderbilt University and University of Adelaide

Sports economics topics for introductory course

- History of professional sports leagues
- Relative importance of the sports industry
- Demand for sport
- Is the team or the league the “firm?”
- Production function for sports
- Profit maximization-short run; choosing ticket prices
- Profit maximization-long run; choosing talent levels
- Pricing individual vs. season tickets
- Pricing where demand is inelastic
- Price discrimination in tickets sales
- Resale of tickets (scalping)
- Revenue sharing and its effects
- League expansion/contraction
- Open (promotion/relegation) vs. closed leagues
- Cartel operations of leagues
- Competitive balance
- Effects of reverse order draft and the Coase Theorem
- Bilateral monopoly in market for players
- Free agency
- Payroll and salary caps
- Players’ unions
- Labor market for players
- Discrimination in labor market
- Competition policy
- Public financing of stadiums
- Local economic impact of sports teams/facilities
- Economics of one-off events, e.g. Olympics
- American college and university sports
- Sport broadcast rights

Sports Economics topics *not* included in my course

- Advertising
- Uncertainty of outcome hypothesis and consumer choice
- Player contracts and principal-agent problems
- Sports gambling
- Cheating, violence, drugs
- Tournaments
- Sports participation

Essential narrow concepts

- Changes in player salaries do not affect SR ticket prices
- Gate shares do not affect competitive balance
- Revenues do not measure value of sports to the economy
- If winning is rank order and determines demand, total output can't be increased
- Labor productivity can't grow if fans care about the production process
- Reverse order draft and a "reserve clause" do not prevent competitive imbalance
- Black market analysis of ticket scalping
- Relative team quality effect
- Final offer arbitration
- Economic rents exacerbate owner/player conflicts

Textbooks and collections of readings*

Humphreys, Brad R. *Economics of Professional Sports* (2013)

* from which at least 100 pages are assigned

Assigned articles

- Pomfret. 2016. "The Evolution of Professional Teams Sports." In Wilson and Pomfret (eds.), *Sports Through the Lens of Economic History*
- Borland and MacDonald. 2003. "Demand for Sport." *Oxford Review of Economic Policy*.
- Salant. 1992. "Price Setting in Professional Team Sports." Chapter 5 in Sommers, ed. *Diamonds are Forever*.
- Noll. 1975. "Attendance, Prices and Profits in Professional Sports." In *Government and the Sports Business*. (Brookings)
- Rottenberg. 1956. "The Baseball Player's Labor Market." *Journal of Pol.Economy*.
- Rosen. 1981. "The Economics of Superstars." *American Economic Review*.
- Siegfried & Sanderson. 2003. "Thinking About Competitive Balance." *Journal of Sports Economics* .
- Siegfried and Zimbalist. 2000. "The Economics of Sports Facilities and Their Communities." *Journal of Economic Perspectives*.

Essay Questions

1. Every estimate of the demand for professional team sports finds the elasticity of demand at the average ticket price level is less than 1 (i.e. inelastic). This surprises economists. Why are economists surprised? Provide at least two possible explanations for the inelastic demand finding that are consistent with team profit-maximizing behavior.
2. In December 2012, the National Hockey League ended a lockout of players by the teams, who sought salary concessions. Because the 2012-13 season began late, a 48-game schedule instead of the usual 82 games was played. *Forbes* magazine reported that the loss of 34 games per team from the usual 82 (41.5 percent) cost the league \$1.16 billion of the normal \$2.8 billion in expected revenue, and implied the lockout caused a \$1.16 billion loss in *economic welfare* to the 2012 US and Canadian economies. Is \$ 1.16 billion a good estimate of the lost economic welfare due to the lockout? If it is, explain why. If it is not, is it too high or too low, and why?

Multiple-choice questions

1. Advocates for building sports stadiums with tax revenue collected by governments rather than being funded by the teams that use the stadiums argue that the stadiums are a "public good." In this context a "public good" is a good or service that:
 - a) when used by one member of the public, cannot be used by another member
 - b) produces benefits that cannot be limited to only members of the public that pay for it
 - c) is paid for by the public
 - d) is of value to all members of the public
 - e) has been identified as "needed" by a majority of the public in a referendum
2. A local minor-league soccer team whose *only revenue* comes from non-discriminatory ticket sales operates at an attendance level where the price elasticity of demand is -0.7 , and the marginal cost is \$ 2.00. If you were hired to advise the team on how to maximize profits, you would recommend that the team:
 - a) lower ticket price
 - b) set ticket price = \$ 0.35
 - c) set ticket price equal to \$ 1.40
 - d) set ticket price equal to \$ 2.00
 - e) raise ticket price above \$ 2.00

Homework assignments

1. Compare and contrast outcomes including effort of teams toward hiring better talent in order to win more games, the market value of teams, and the likely profitability of teams across three football codes: European soccer, North American gridiron football, and Australian Rules Football. Consider differences across the football codes in terms of (a) open vs. closed league structure, (b) not-for-profit club vs. individual ownership and their likely goals, and (c) the extent of revenue sharing among teams and payroll caps.
2. *The Wall Street Journal (WSJ)* reported on July 1, 2013 that the US v. Belgium World Cup match (Belgium won 2-0) would attract 20 million TV viewers in the US. It was televised during work time in all four US time zones. Of the 20 million viewers, 14 million likely have jobs, with average hourly pay of US \$24.38. The game was expected to last 2 hours, so *WSJ* calculated it would cost the US economy *lost welfare* of \$682 million. Write to the *WSJ*, evaluating its welfare cost estimate. Assume the broadcast did take 2 hours. The *WSJ* said the US should not play in future World Cups that are televised during US working hours to avoid this “enormous loss of welfare to Americans.” In 250 words or less, agree or disagree with this conclusion, and explain your position.