# Working Paper Series
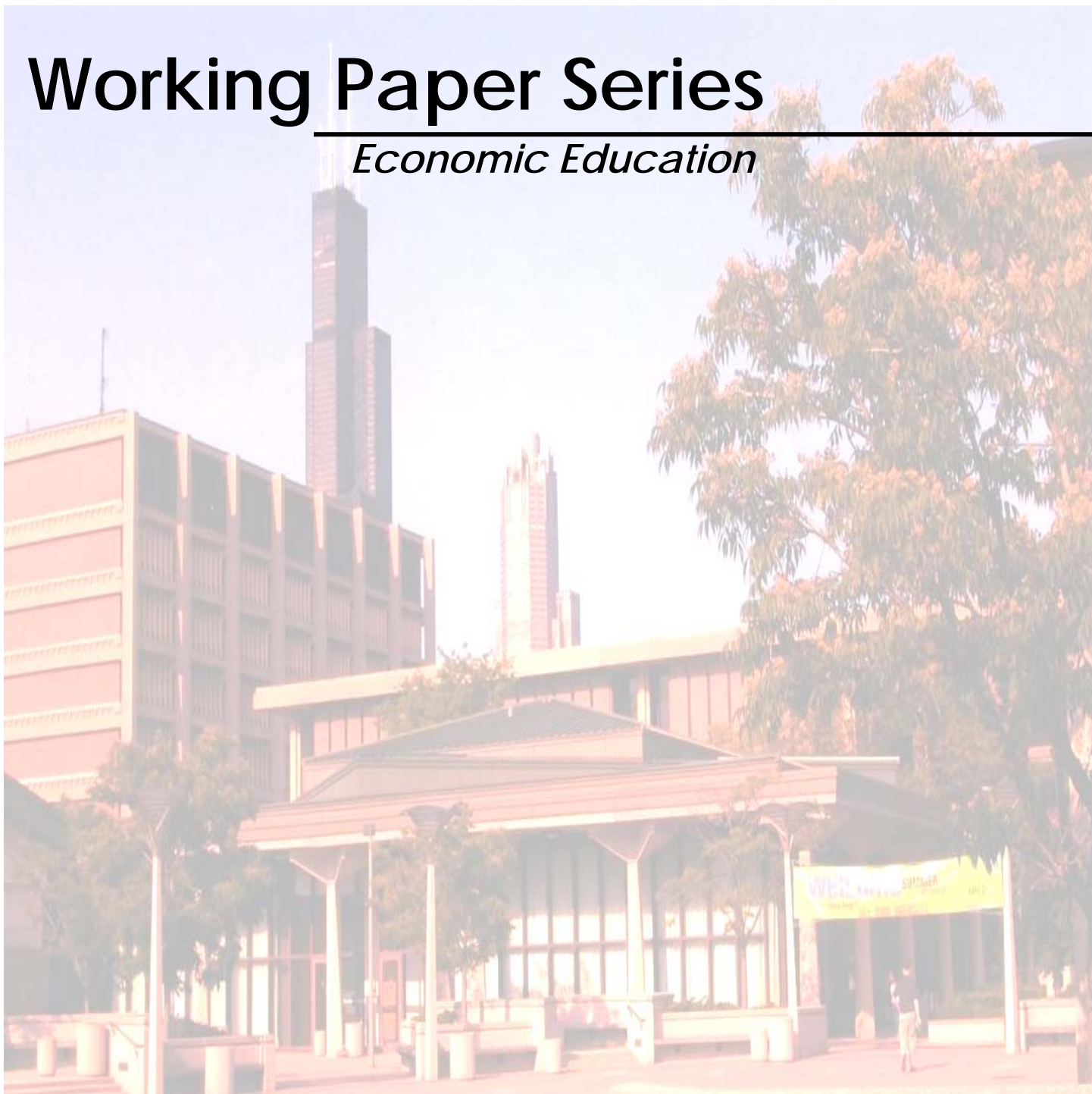
*Economic Education*

*Superstar Salaries: Sports Economics in the Classroom*

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## Center for Economic Education

Abstract

The distance between the best-paid and the average workers' salaries in professional sports, entertainment, and traditional business companies receives frequent news coverage. This classroom experiment demonstrates one way superstar salaries emerge, namely through bidding by rival teams for players with exceptional skills. By competing against each other for players, whose contributions to the future win rates bring increases in revenues, students generate data on salary disparities. They analyze this data to see how superstar salaries arise and the effects of some of the proposed solutions. The exercise works in small or large classes. For all 6 rounds plus discussion, two 50-minute periods are needed. Rounds 1 and 2 are introductory rounds and may be repeated until students are comfortable with the process. Rounds 3 and 4 add extra revenues to teams winning the League Pennants and Super Championships. Rounds 5 and 6 represent different types of salary caps.

Introduction


Economic Concepts:  Marginal revenue product, competition, markets, opportunity cost


Materials Needed:  Timer, up to 36 League, League Profit, Super Championship, and Super Profit team prizes (example, small stuffed animals for Super Championship, assorted small candies for League prizes; for 3-person teams with candy prizes that would be 108 pieces), masking tape, pens, calculators (optional), 108 copies of Player Bid Sheets, 12 copies of Instruction Sheet, 1 copy of all 12 Team Sheets.


Background Information:

The distance between the best-paid and the average workers' salaries in professional sports, entertainment, and traditional business companies receives frequent news coverage. This classroom experiment demonstrates one way superstar salaries emerge, namely through bidding by rival teams for players with exceptional skills. Superstar salaries are identified by comparing salary spreads with spreads in productivity. Players differ by a factor of 5 in their productivity, measured by how many percentage points each player adds to a team's wins per 100 games. If the best-paid players' salaries is more than 5 times the lowest paid player's salary, then the top salaries are "superstar" salaries. By competing against each other for players, whose contributions to the future win rates bring increases in revenues, students generate data on salary disparities. They analyze this data to see how superstar salaries arise and the effects of some of the proposed solutions. The exercise works in small or large classes. The rounds are set up to be either identical teams to start (like NFL) or teams with different win percentages to start (like NBA). Running one type (3 rounds) takes one period of about 50 minutes. For all 6 rounds plus discussion, 2 periods are needed. Rounds 1 and 2 are introductory rounds and may be repeated until students are comfortable with the

process. Rounds 3 and 4 add extra revenues to teams winning the League Pennants and Super Championships. Rounds 5 and 6 represent different types of salary caps.

In 2003, 60% of basketball team revenues went to player salaries, 63% of baseball revenues, 64% of pro football, and 75% of hockey team revenues went to player salaries. Average player salary in hockey in 2004 was $1.86 million. (Hyman 2004)

Experiment Directions and Rules:

1. Tape 6 copies of each player's bid sheets on walls/tables around the room. You should have a row of 18 players, each 6 copies deep with each copy held by 1 piece of tape for easy ripping off during the session.
2. Preparatory discussion: background information. Give each team a team sheet and an instruction sheet. Warning: Team sheets include information that your team may want to keep secret from other teams.
3. Instructions to teams: We will be simulating the bidding for players by sports teams. Each player adds a given amount to your team's probability of winning, which generates extra revenue for your team. For example, Al adds 10 percentage points to your win rate. Each percentage point added to your win rate increases team revenues by $500,000. This means hiring Al will add $5 million to your team revenues. If you pay Al $5 million, you will earn zero profits. If you pay all more than $5 million, you will lose money and be dropped from the league, causing your team to sit out the next round. If you hire Al at $2 million, you will make $3 million in profits for your team. Each round, the League and Super Championship winners AND the team with the highest profits will receive prizes.
4. Teams start fresh each round with zero profits and one open slot. Win rate probabilities may change from round to round, and are described in the Team Sheets. Highest win rate in the league wins the League pennant, and highest win rate overall wins the Super Championship. Highest profits in league win the League Profit and highest profits in both leagues wins Super Profit.
5. Each team may bid on only one player at a time. Bids start at a minimum of $100,000 and move to increments of $500,000. So if you bid $100,000, the next higher possible bid will be $500,000, then $1 million, and so on.
6. Each round will have league and super championship winners. In the first and fourth rounds, all teams start with the same probability of winning (15%). In the other rounds, each team has a different win rate probability. The league and super championship winners and the most profitable teams will receive prizes in each round.
7. Each trading round will last between 3 and 5 minutes (time unknown to teams). Teams writing when the timer buzzes may not finish their bids. If a team has outstanding bids for 2 players at a time, they are disqualified and the entry above is valid. In that case,

if the team getting the newly validated bid also has a bid outstanding for another player, that team can choose which player to take.
8. If you are outbid or if your team doesn't bid, your probability of winning is whatever you started the round with. If your bid gets a player, then the probability of winning is your starting probability plus the extra percentage points generated by that player.

Discussion Questions:

1. Should all players on a team be paid the same amount? Why or why not?
2. Should players collect as salaries all the money that comes to their team?
3. Which player signed will generate the most revenue for his team in Round 1? How much?
4. Which player signed will generate the least revenue for his team in Round 1? How much?
5. What was the spread of salaries offered in Round 1? How does this compare with the differences in the amount of revenue generated by the top and bottom signed players?
6. Compare Rounds 1, 2, 3, and 4. Superstar salaries occur when the salary differences are much greater than the differences in marginal revenue product (the extra revenue generated by a player). Describe whether you see superstar salaries in these rounds.
7. What are the costs and benefits to superstar salaries?
8. Salary caps (like in Rounds 5 and 6) are a way to control salary disparities. What are the costs and benefits of salary caps?

Comments

With our sports economics class, salaries in a single round ranged from $12.5 million to $100,000, definitely superstar salaries, whether teams started with identical or different win rates. The range magnified when there was extra revenue for winning pennants, and narrowed for the salary caps.

References

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*Superstar Salaries*

**Instructions**                                                         **Handout #1**

You and your team have the task of selecting one more player for your team.  You and your team are in a bidding war, with the rest of the class (total of 12 teams in 2 6-team leagues), to put together a team to help you win the pennant.  There are 18 players listed in the table below.  The number in parentheses represents the number of percentage points each player will add to your probability of winning.  Each additional percentage point of win probability adds $500,000 to your team revenues.  Your job is to choose one new team member for your team and to bid on the posted sheets.  Teams are currently breaking even.  Losing money automatically drops you from the league.  In other words, you *may* pay your new hire less than, but *may not* pay him more than, the additional revenues your team will receive.
**Tip**: Write each player's contribution to your revenues below their name in the table below.

| *Player* | *Player* | *Player* | *Player* | *Player* | *Player* |
|---|---|---|---|---|---|
| Al (10) | Jamar (15) | Kim (25) | Kendall (15) | Andre (10) | Randy (5) |
| *Player* | *Player* | *Player* | *Player* | *Player* | *Player* |
| Mike (20) | Raul (20) | BaiYu (15) | Krystov (10) | Tim (5) | Craig (5) |
| *Player* | *Player* | *Player* | *Player* | *Player* | *Player* |
| Casimir (5) | Luis (5) | Shayan (5) | Beichen (5) | Jeremy (5) | Doug (5) |

**Team Name:**_____

**Your Names:**_____

| *Player Hired Each Round* | *Successful Bid Amount* | *Revenue from Player* | *Team Profit or Loss* |
|---|---|---|---|
| #1 | $ | | |
| #2 | $ | | |
| #3 | $ | | |
| #4 | $ | | |
| #5 | $ | | |
| #6 | $ | | |

# Player Bid Sheet

**Player:** _____

| Bid | League | Team |
|---|---|---|
| $ | | |
| $ | | |
| $ | | |
| $ | | |
| $ | | |
| $ | | |
| $ | | |
| $ | | |
| $ | | |
| $ | | |
| $ | | |
| $ | | |
| $ | | |

Team:   A in League:   North

Round 1:     Your probability of winning (before you hire the new player) is
             15%.

Round 2:     Your probability of winning (before you hire the new player) is
             45%.

Round 3:     Your probability of winning (before you hire the new player) is
             45%.  If you have the highest probability of winning in your league,
             you also win the league pennant for an extra $2 million in revenues
             for your team.  If you have the highest probability of winning in
             both leagues together, you win the super championship for an
             additional $7 million in revenues for your team.

Round 4:     Your probability of winning (before you hire the new player) is
             15%.  If you have the highest probability of winning in your league,
             you also win the league pennant for an extra $2 million in revenues
             for your team.  If you have the highest probability of winning in
             both leagues together, you win the super championship for an
             additional $7 million in revenues for your team.

Round 5:     Your probability of winning (before you hire the new player) is
             45%.  The leaguer has imposed a salary cap!  No player may be
             paid more than $2 million per year. No extra revenues from
             winning league pennant or super championships.

Round 6:     Your probability of winning (before you hire the new player) is
             45%.  The leaguer has imposed a team average salary cap!  The
             average salary per team member cannot exceed $2 million per year.
             Your average salary (team roster of 20) is $1.5 million.  Your team
             has a current roster of 20 players, so the total salary pool is 20 times
             your average salary, or

             _____million.  If this number is greater than or equal
             to $40 million, then the highest you can pay your new player is
             $200,000 (twice the minimum bid).  If your salary pool is less than
             $40 million, then you can pay your new player up to $40 million
             minus that pool number.  For example, if your average salary is
             $1.5 million, then your total pool is $30 million and you can pay up
             to $10 million to your new player.  If your average salary is $2.1
             million, then your total salary pool is $42 million.  The most you
             can bid for your new player is $200,000.

Team:   B in League:   North

Round 1:   Your probability of winning (before you hire the new player) is
15%.

Round 2:   Your probability of winning (before you hire the new player) is
40%.

Round 3:   Your probability of winning (before you hire the new player) is
40%. If you have the highest probability of winning in your league,
you also win the league pennant for an extra $2 million in revenues
for your team. If you have the highest probability of winning in
both leagues together, you win the super championship for an
additional $7 million in revenues for your team.

Round 4:   Your probability of winning (before you hire the new player) is
15%. If you have the highest probability of winning in your league,
you also win the league pennant for an extra $2 million in revenues
for your team. If you have the highest probability of winning in
both leagues together, you win the super championship for an
additional $7 million in revenues for your team.

Round 5:   Your probability of winning (before you hire the new player) is
40%. The leaguer has imposed a salary cap! No player may be
paid more than $2 million per year. No extra revenues from
winning league pennant or super championships.

Round 6:   Your probability of winning (before you hire the new player) is
40%. The leaguer has imposed a team average salary cap! The
average salary per team member cannot exceed $2 million per year.
Your average salary (team roster of 20) is $2.2 million. Your team
has a current roster of 20 players, so the total salary pool is 20 times
your average salary, or

_____million. If this number is greater than or equal
to $40 million, then the highest you can pay your new player is
$200,000 (twice the minimum bid). If your salary pool is less than
$40 million, then you can pay your new player up to $40 million
minus that pool number. For example, if your average salary is
$1.5 million, then your total pool is $30 million and you can pay up
to $10 million to your new player. If your average salary is $2.1
million, then your total salary pool is $42 million. The most you
can bid for your new player is $200,000.

Team:   C in League:   North

Round 1:   Your probability of winning (before you hire the new player) is 15%.

Round 2:   Your probability of winning (before you hire the new player) is 35%.

Round 3:   Your probability of winning (before you hire the new player) is 35%. If you have the highest probability of winning in your league, you also win the league pennant for an extra $2 million in revenues for your team. If you have the highest probability of winning in both leagues together, you win the super championship for an additional $7 million in revenues for your team.

Round 4:   Your probability of winning (before you hire the new player) is 15%. If you have the highest probability of winning in your league, you also win the league pennant for an extra $2 million in revenues for your team. If you have the highest probability of winning in both leagues together, you win the super championship for an additional $7 million in revenues for your team.

Round 5:   Your probability of winning (before you hire the new player) is 35%. The leaguer has imposed a salary cap! No player may be paid more than $2 million per year. No extra revenues from winning league pennant or super championships.

Round 6:   Your probability of winning (before you hire the new player) is 35%. The leaguer has imposed a team average salary cap! The average salary per team member cannot exceed $2 million per year. Your average salary (team roster of 20) is $2.0 million. Your team has a current roster of 20 players, so the total salary pool is 20 times your average salary, or

_____million. If this number is greater than or equal to $40 million, then the highest you can pay your new player is $200,000 (twice the minimum bid). If your salary pool is less than $40 million, then you can pay your new player up to $40 million minus that pool number. For example, if your average salary is $1.5 million, then your total pool is $30 million and you can pay up to $10 million to your new player. If your average salary is $2.1 million, then your total salary pool is $42 million. The most you can bid for your new player is $200,000.

Team:   D in League:   North

Round 1:   Your probability of winning (before you hire the new player) is
15%.

Round 2:   Your probability of winning (before you hire the new player) is
10%.

Round 3:   Your probability of winning (before you hire the new player) is
10%.  If you have the highest probability of winning in your league,
you also win the league pennant for an extra $2 million in revenues
for your team.  If you have the highest probability of winning in
both leagues together, you win the super championship for an
additional $7 million in revenues for your team.

Round 4:   Your probability of winning (before you hire the new player) is
15%.  If you have the highest probability of winning in your league,
you also win the league pennant for an extra $2 million in revenues
for your team.  If you have the highest probability of winning in
both leagues together, you win the super championship for an
additional $7 million in revenues for your team.

Round 5:   Your probability of winning (before you hire the new player) is
10%.  The leaguer has imposed a salary cap!  No player may be
paid more than $2 million per year.  No extra revenues from
winning league pennant or super championships.

Round 6:   Your probability of winning (before you hire the new player) is
10%.  The leaguer has imposed a team average salary cap!  The
average salary per team member cannot exceed $2 million per year.
Your average salary (team roster of 20) is $2.1 million.  Your team
has a current roster of 20 players, so the total salary pool is 20 times
your average salary, or

_____million.  If this number is greater than or equal
to $40 million, then the highest you can pay your new player is
$200,000 (twice the minimum bid).  If your salary pool is less than
$40 million, then you can pay your new player up to $40 million
minus that pool number.  For example, if your average salary is
$1.5 million, then your total pool is $30 million and you can pay up
to $10 million to your new player.  If your average salary is $2.1
million, then your total salary pool is $42 million.  The most you
can bid for your new player is $200,000.

Team:   E in League:   North

Round 1:    Your probability of winning (before you hire the new player) is 15%.

Round 2:    Your probability of winning (before you hire the new player) is 20%.

Round 3:    Your probability of winning (before you hire the new player) is 20%. If you have the highest probability of winning in your league, you also win the league pennant for an extra $2 million in revenues for your team. If you have the highest probability of winning in both leagues together, you win the super championship for an additional $7 million in revenues for your team.

Round 4:    Your probability of winning (before you hire the new player) is 15%. If you have the highest probability of winning in your league, you also win the league pennant for an extra $2 million in revenues for your team. If you have the highest probability of winning in both leagues together, you win the super championship for an additional $7 million in revenues for your team.

Round 5:    Your probability of winning (before you hire the new player) is 20%. The leaguer has imposed a salary cap! No player may be paid more than $2 million per year. No extra revenues from winning league pennant or super championships.

Round 6:    Your probability of winning (before you hire the new player) is 20%. The leaguer has imposed a team average salary cap! The average salary per team member cannot exceed $2 million per year. Your average salary (team roster of 20) is $1.5 million. Your team has a current roster of 20 players, so the total salary pool is 20 times your average salary, or

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Team:   F in League:   North

Round 1:    Your probability of winning (before you hire the new player) is 15%.

Round 2:    Your probability of winning (before you hire the new player) is 15%.

Round 3:    Your probability of winning (before you hire the new player) is 15%. If you have the highest probability of winning in your league, you also win the league pennant for an extra $2 million in revenues for your team. If you have the highest probability of winning in both leagues together, you win the super championship for an additional $7 million in revenues for your team.

Round 4:    Your probability of winning (before you hire the new player) is 15%. If you have the highest probability of winning in your league, you also win the league pennant for an extra $2 million in revenues for your team. If you have the highest probability of winning in both leagues together, you win the super championship for an additional $7 million in revenues for your team.

Round 5:    Your probability of winning (before you hire the new player) is 15%. The leaguer has imposed a salary cap! No player may be paid more than $2 million per year. No extra revenues from winning league pennant or super championships.

Round 6:    Your probability of winning (before you hire the new player) is 15%. The leaguer has imposed a team average salary cap! The average salary per team member cannot exceed $2 million per year. Your average salary (team roster of 20) is $2.0 million. Your team has a current roster of 20 players, so the total salary pool is 20 times your average salary, or

_____million. If this number is greater than or equal to $40 million, then the highest you can pay your new player is $200,000 (twice the minimum bid). If your salary pool is less than $40 million, then you can pay your new player up to $40 million minus that pool number. For example, if your average salary is $1.5 million, then your total pool is $30 million and you can pay up to $10 million to your new player. If your average salary is $2.1 million, then your total salary pool is $42 million. The most you can bid for your new player is $200,000.

Team:   1 in League:   South

Round 1:     Your probability of winning (before you hire the new player) is
             15%.

Round 2:     Your probability of winning (before you hire the new player) is
             45%.

Round 3:     Your probability of winning (before you hire the new player) is
             45%.  If you have the highest probability of winning in your league,
             you also win the league pennant for an extra $2 million in revenues
             for your team.  If you have the highest probability of winning in
             both leagues together, you win the super championship for an
             additional $7 million in revenues for your team.

Round 4:     Your probability of winning (before you hire the new player) is
             15%.  If you have the highest probability of winning in your league,
             you also win the league pennant for an extra $2 million in revenues
             for your team.  If you have the highest probability of winning in
             both leagues together, you win the super championship for an
             additional $7 million in revenues for your team.

Round 5:     Your probability of winning (before you hire the new player) is
             45%.  The leaguer has imposed a salary cap!  No player may be
             paid more than $2 million per year.  No extra revenues from
             winning league pennant or super championships.

Round 6:     Your probability of winning (before you hire the new player) is
             45%.  The leaguer has imposed a team average salary cap!  The
             average salary per team member cannot exceed $2 million per year.
             Your average salary (team roster of 20) is $2.2 million.  Your team
             has a current roster of 20 players, so the total salary pool is 20 times
             your average salary, or

             _____million.  If this number is greater than or equal
             to $40 million, then the highest you can pay your new player is
             $200,000 (twice the minimum bid).  If your salary pool is less than
             $40 million, then you can pay your new player up to $40 million
             minus that pool number.  For example, if your average salary is
             $1.5 million, then your total pool is $30 million and you can pay up
             to $10 million to your new player.  If your average salary is $2.1
             million, then your total salary pool is $42 million.  The most you
             can bid for your new player is $200,000.

Team:  2 in League:   South

Round 1:    Your probability of winning (before you hire the new player) is
            15%.

Round 2:    Your probability of winning (before you hire the new player) is
            35%.

Round 3:    Your probability of winning (before you hire the new player) is
            35%.  If you have the highest probability of winning in your league,
            you also win the league pennant for an extra $2 million in revenues
            for your team.  If you have the highest probability of winning in
            both leagues together, you win the super championship for an
            additional $7 million in revenues for your team.

Round 4:    Your probability of winning (before you hire the new player) is
            15%.  If you have the highest probability of winning in your league,
            you also win the league pennant for an extra $2 million in revenues
            for your team.  If you have the highest probability of winning in
            both leagues together, you win the super championship for an
            additional $7 million in revenues for your team.

Round 5:    Your probability of winning (before you hire the new player) is
            35%.  The leaguer has imposed a salary cap!  No player may be
            paid more than $2 million per year.  No extra revenues from
            winning league pennant or super championships.

Round 6:    Your probability of winning (before you hire the new player) is
            35%.  The leaguer has imposed a team average salary cap!  The
            average salary per team member cannot exceed $2 million per year.
            Your average salary (team roster of 20) is $2.1 million.  Your team
            has a current roster of 20 players, so the total salary pool is 20 times
            your average salary, or

            _____million.  If this number is greater than or equal
            to $40 million, then the highest you can pay your new player is
            $200,000 (twice the minimum bid).  If your salary pool is less than
            $40 million, then you can pay your new player up to $40 million
            minus that pool number.  For example, if your average salary is
            $1.5 million, then your total pool is $30 million and you can pay up
            to $10 million to your new player.  If your average salary is $2.1
            million, then your total salary pool is $42 million.  The most you
            can bid for your new player is $200,000.

Team:   3 in League:   South

Round 1:   Your probability of winning (before you hire the new player) is 15%.

Round 2:   Your probability of winning (before you hire the new player) is 25%.

Round 3:   Your probability of winning (before you hire the new player) is 25%. If you have the highest probability of winning in your league, you also win the league pennant for an extra $2 million in revenues for your team. If you have the highest probability of winning in both leagues together, you win the super championship for an additional $7 million in revenues for your team.

Round 4:   Your probability of winning (before you hire the new player) is 15%. If you have the highest probability of winning in your league, you also win the league pennant for an extra $2 million in revenues for your team. If you have the highest probability of winning in both leagues together, you win the super championship for an additional $7 million in revenues for your team.

Round 5:   Your probability of winning (before you hire the new player) is 25%. The leaguer has imposed a salary cap! No player may be paid more than $2 million per year. No extra revenues from winning league pennant or super championships.

Round 6:   Your probability of winning (before you hire the new player) is 25%. The leaguer has imposed a team average salary cap! The average salary per team member cannot exceed $2 million per year. Your average salary (team roster of 20) is $1.5 million. Your team has a current roster of 20 players, so the total salary pool is 20 times your average salary, or

_____million. If this number is greater than or equal to $40 million, then the highest you can pay your new player is $200,000 (twice the minimum bid). If your salary pool is less than $40 million, then you can pay your new player up to $40 million minus that pool number. For example, if your average salary is $1.5 million, then your total pool is $30 million and you can pay up to $10 million to your new player. If your average salary is $2.1 million, then your total salary pool is $42 million. The most you can bid for your new player is $200,000.

Team:   4 in League:   South

Round 1:    Your probability of winning (before you hire the new player) is
            15%.

Round 2:    Your probability of winning (before you hire the new player) is
            20%.

Round 3:    Your probability of winning (before you hire the new player) is
            20%. If you have the highest probability of winning in your league,
            you also win the league pennant for an extra $2 million in revenues
            for your team. If you have the highest probability of winning in
            both leagues together, you win the super championship for an
            additional $7 million in revenues for your team.

Round 4:    Your probability of winning (before you hire the new player) is
            15%. If you have the highest probability of winning in your league,
            you also win the league pennant for an extra $2 million in revenues
            for your team. If you have the highest probability of winning in
            both leagues together, you win the super championship for an
            additional $7 million in revenues for your team.

Round 5:    Your probability of winning (before you hire the new player) is
            20%. The leaguer has imposed a salary cap! No player may be
            paid more than $2 million per year. No extra revenues from
            winning league pennant or super championships.

Round 6:    Your probability of winning (before you hire the new player) is
            20%. The leaguer has imposed a team average salary cap! The
            average salary per team member cannot exceed $2 million per year.
            Your average salary (team roster of 20) is $2 million. Your team
            has a current roster of 20 players, so the total salary pool is 20 times
            your average salary, or

            _____million. If this number is greater than or equal
            to $40 million, then the highest you can pay your new player is
            $200,000 (twice the minimum bid). If your salary pool is less than
            $40 million, then you can pay your new player up to $40 million
            minus that pool number. For example, if your average salary is
            $1.5 million, then your total pool is $30 million and you can pay up
            to $10 million to your new player. If your average salary is $2.1
            million, then your total salary pool is $42 million. The most you
            can bid for your new player is $200,000.

Team:   5 in League:   South

Round 1:    Your probability of winning (before you hire the new player) is
            15%.

Round 2:    Your probability of winning (before you hire the new player) is
            15%.

Round 3:    Your probability of winning (before you hire the new player) is
            15%.  If you have the highest probability of winning in your league,
            you also win the league pennant for an extra $2 million in revenues
            for your team.  If you have the highest probability of winning in
            both leagues together, you win the super championship for an
            additional $7 million in revenues for your team.

Round 4:    Your probability of winning (before you hire the new player) is
            15%.  If you have the highest probability of winning in your league,
            you also win the league pennant for an extra $2 million in revenues
            for your team.  If you have the highest probability of winning in
            both leagues together, you win the super championship for an
            additional $7 million in revenues for your team.

Round 5:    Your probability of winning (before you hire the new player) is
            15%.  The leaguer has imposed a salary cap!  No player may be
            paid more than $2 million per year.  No extra revenues from
            winning league pennant or super championships.

Round 6:    Your probability of winning (before you hire the new player) is
            15%.  The leaguer has imposed a team average salary cap!  The
            average salary per team member cannot exceed $2 million per year.
            Your average salary (team roster of 20) is $1.5 million.  Your team
            has a current roster of 20 players, so the total salary pool is 20 times
            your average salary, or

            _____million.  If this number is greater than or equal
            to $40 million, then the highest you can pay your new player is
            $200,000 (twice the minimum bid).  If your salary pool is less than
            $40 million, then you can pay your new player up to $40 million
            minus that pool number.  For example, if your average salary is
            $1.5 million, then your total pool is $30 million and you can pay up
            to $10 million to your new player.  If your average salary is $2.1
            million, then your total salary pool is $42 million.  The most you
            can bid for your new player is $200,000.

Team:   6 in League:   South

Round 1:    Your probability of winning (before you hire the new player) is
            15%.

Round 2:    Your probability of winning (before you hire the new player) is
            10%.

Round 3:    Your probability of winning (before you hire the new player) is
            10%.  If you have the highest probability of winning in your league,
            you also win the league pennant for an extra $2 million in revenues
            for your team.  If you have the highest probability of winning in
            both leagues together, you win the super championship for an
            additional $7 million in revenues for your team.

Round 4:    Your probability of winning (before you hire the new player) is
            15%.  If you have the highest probability of winning in your league,
            you also win the league pennant for an extra $2 million in revenues
            for your team.  If you have the highest probability of winning in
            both leagues together, you win the super championship for an
            additional $7 million in revenues for your team.

Round 5:    Your probability of winning (before you hire the new player) is
            10%.  The leaguer has imposed a salary cap!  No player may be
            paid more than $2 million per year.  No extra revenues from
            winning league pennant or super championships.

Round 6:    Your probability of winning (before you hire the new player) is
            10%.  The leaguer has imposed a team average salary cap!  The
            average salary per team member cannot exceed $2 million per year.
            Your average salary (team roster of 20) is $1.0 million.  Your team
            has a current roster of 20 players, so the total salary pool is 20 times
            your average salary, or

            _____million.  If this number is greater than or equal
            to $40 million, then the highest you can pay your new player is
            $200,000 (twice the minimum bid).  If your salary pool is less than
            $40 million, then you can pay your new player up to $40 million
            minus that pool number.  For example, if your average salary is
            $1.5 million, then your total pool is $30 million and you can pay up
            to $10 million to your new player.  If your average salary is $2.1
            million, then your total salary pool is $42 million.  The most you
            can bid for your new player is $200,000.

# Team Initial Win Rates

| Team | Round 1 Win % | Round 2 Win % | Round 3 Win % | Round 4 Win % | Round 5 Win % | Round 6 Win % |
|------|---------------|---------------|---------------|---------------|---------------|---------------|
| A | 15 | 45 | 45 | 15 | 45 | 45 |
| B | 15 | 40 | 40 | 15 | 40 | 40 |
| C | 15 | 35 | 35 | 15 | 35 | 35 |
| D | 15 | 10 | 10 | 15 | 10 | 10 |
| E | 15 | 20 | 20 | 15 | 20 | 20 |
| F | 15 | 15 | 15 | 15 | 15 | 15 |
| 1 | 15 | 45 | 45 | 15 | 45 | 45 |
| 2 | 15 | 35 | 35 | 15 | 35 | 35 |
| 3 | 15 | 25 | 25 | 15 | 25 | 25 |
| 4 | 15 | 20 | 20 | 15 | 20 | 20 |
| 5 | 15 | 15 | 15 | 15 | 15 | 15 |
| 6 | 15 | 10 | 10 | 15 | 10 | 10 |

**Round 1 Results**

| Player | Player Win % | Team | Salary | Player MRP | Team Profit | Team Win % | Awards |
|---|---|---|---|---|---|---|---|
| Al | 10 | | | 5000 | | | |
| Jamar | 15 | | | 7500 | | | |
| Kim | 25 | 4 | 10000 | 12500 | 2500 | 40 | League Pennant and Profit, Super Champ |
| Kendall | 15 | B | 2000 | 7500 | 5500 | 30 | League and Super Profit |
| Andre | 10 | A | 300 | 5000 | 4700 | 25 | |
| Randy | 5 | | | 2500 | | | |
| Mike | 20 | D | 12500 | 10000 | -2500 | 35 | League Pennant (tie) |
| Raul | 20 | C | 8500 | 10000 | 1500 | 35 | League Pennant (tie) |
| BaiYu | 15 | E | 5000 | 7500 | 2500 | 30 | |
| Krystov | 10 | G | 2000 | 5000 | 3000 | 25 | |
| Tim | 5 | F | 2000 | 2500 | 500 | 20 | |
| Craig | 5 | | | 2500 | | | |
| Casimir | 5 | | | 2500 | | | |
| Luis | 5 | | | 2500 | | | |
| Shayan | 5 | | | 2500 | | | |
| Beichen | 5 | 1 | 100 | 2500 | 2400 | 20 | |
| Jeremy | 5 | | | 2500 | | | |
| Doug | 5 | 2 | 1000 | 2500 | 1500 | 20 | |
| | | | | | 21600 | | |

Salaries in $000

# Round 2 Results

| Player | Player Win % | Team | Salary | Player MRP | Team Profit | Team Win % | Awards |
|---|---|---|---|---|---|---|---|
| Al | 10 | 5 | 200 | 5000 | 4800 | 25 | |
| Jamar | 15 | | | 7500 | | | |
| Kim | 25 | 1 | 7000 | 12500 | 5500 | 70 | League Pennant, Super Championsip |
| Kendall | 15 | A | 1600 | 7500 | 5900 | 60 | League Pennant |
| Andre | 10 | | | 5000 | | | |
| Randy | 5 | | | 2500 | | | |
| Mike | 20 | C | 4000 | 10000 | 6000 | 55 | League Profit, Super Profit |
| Raul | 20 | 2 | 4100 | 10000 | 5900 | 55 | League Profit |
| BaiYu | 15 | F | 2500 | 7500 | 5000 | 30 | |
| Krystov | 10 | 5 | 400 | 5000 | 4600 | 25 | |
| Tim | 5 | E | 100 | 2500 | 2400 | 25 | |
| Craig | 5 | | | 2500 | | | |
| Casimir | 5 | | | 2500 | | | |
| Luis | 5 | | | 2500 | | | |
| Shayan | 5 | | | 2500 | | | |
| Beichen | 5 | | | 2500 | | | |
| Jeremy | 5 | | | 2500 | | | |
| Doug | 5 | | | 2500 | | | |
| | | | | | 40100 | | |

Salaries in $000

# Round 3 Results

| Player | Player Win % | Team | Salary | Player MRP | Team Profit | Team Win % | Awards |
|---|---|---|---|---|---|---|---|
| Al | 10 | D | 200 | 5000 | 4800 | 20 | |
| Jamar | 15 | A | 3000 | 7500 | 6500 | 60 | League Pennant and Profit, Super Profit |
| Kim | 25 | 1 | 20500 | 12500 | 1000 | 70 | League Pennant, Super Championship |
| Kendall | 15 | C | 5000 | 7500 | 2500 | 50 | |
| Andre | 10 | 5 | 100 | 5000 | 4900 | 25 | League Profit (tie) |
| Randy | 5 | | | 2500 | | | |
| Mike | 20 | 4 | 10000 | 10000 | 0 | 40 | |
| Raul | 20 | 3 | 12000 | 10000 | -2000 | 45 | |
| BaiYu | 15 | E | 2700 | 7500 | 4800 | 35 | |
| Krystov | 10 | 6 | 100 | 5000 | 4900 | 20 | League Profit (tie) |
| Tim | 5 | F | 1000 | 2500 | 1500 | 20 | |
| Craig | 5 | | | 2500 | | | |
| Casimir | 5 | | | 2500 | | | |
| Luis | 5 | | | 2500 | | | |
| Shayan | 5 | | | 2500 | | | |
| Beichen | 5 | | | 2500 | | | |
| Jeremy | 5 | | | 2500 | | | |
| Doug | 5 | | | 2500 | | | |
| | | | 28900 | | | | |

League Champions receive extra $2000, Super Champion receives extra $7000.

Salaries in $000

## Round 4 Results

| Player | Player Win % | Team | Salary | Player MRP | Team Profit | Team Win % | Awards |
|---|---|---|---|---|---|---|---|
| Al | 10 | 1 | 100 | 5000 | 4900 | 25 | League Profit (tie) |
| Jamar | 15 | A | 4000 | 7500 | 3500 | 30 | |
| Kim | 25 | 6 | 21500 | 12500 | 0 | 40 | League Pennant, Super Championship |
| Kendall | 15 | D | 1500 | 7500 | 6000 | 30 | League Profit, Super Profit |
| Andre | 10 | | | 5000 | | | |
| Randy | 5 | | | 2500 | | | |
| Mike | 20 | 4 | 10000 | 10000 | 0 | 35 | |
| Raul | 20 | E | 9500 | 10000 | 2500 | 35 | League Pennant |
| BaiYu | 15 | F | 2500 | 7500 | 5000 | 30 | |
| Krystov | 10 | 5 | 100 | 5000 | 4900 | 25 | League Profit (tie) |
| Tim | 5 | 3 | 100 | 2500 | 2400 | 20 | |
| Craig | 5 | | | 2500 | | | |
| Casimir | 5 | | | 2500 | | | |
| Luis | 5 | | | 2500 | | | |
| Shayan | 5 | | | 2500 | | | |
| Beichen | 5 | | | 2500 | | | |
| Jeremy | 5 | | | 2500 | | | |
| Doug | 5 | | | 2500 | | | |
| | | | | | 29200 | | |

League Champions receive extra $2000, Super Champion receives extra $7000.

League Champions receive extra $2000, Super Champion receives extra $7000.

Salaries in $000

# Round 5 Results

| Player | Player Win % | Team | | Salary | Player MRP | Team Profit | Team Win % | Awards |
|---|---|---|---|---|---|---|---|---|
| Al | 10 | D | | 100 | 5000 | 4900 | 20 | |
| Jamar | 15 | A | | 2000 | 7500 | 5500 | 60 | League Pennant, League Profit (tie) |
| Kim | 25 | | 2 | 2000 | 12500 | 10500 | 60 | League Profit |
| Kendall | 15 | C | | 2000 | 7500 | 5500 | 50 | League Profit (tie) |
| Andre | 10 | B | | 2000 | 5000 | 3000 | 50 | |
| Randy | 5 | F | | 500 | 2500 | 2000 | 20 | |
| Mike | 20 | | 4 | 2000 | 10000 | 8000 | 40 | |
| Raul | 20 | | 1 | 2000 | 10000 | 8000 | 65 | League Pennant, Super Champion |
| BaiYu | 15 | | 6 | 2000 | 7500 | 5500 | 25 | |
| Krystov | 10 | E | | 2000 | 5000 | 3000 | 30 | |
| Tim | 5 | | 5 | 100 | 2500 | 2400 | 20 | |
| Craig | 5 | | | | 2500 | | | |
| Casimir | 5 | | | | 2500 | | | |
| Luis | 5 | | | | 2500 | | | |
| Shayan | 5 | | | | 2500 | | | |
| Beichen | 5 | | | | 2500 | | | |
| Jeremy | 5 | | | | 2500 | | | |
| Doug | 5 | | | | 2500 | | | |
| | | | | | | 58300 | | |

Salaries in $000

# Round 6 Results

| Player | Player Win % | Team | Salary | Player MRP | Team Profit | Team Win % | Awards |
|---|---|---|---|---|---|---|---|
| Al | 10 | D | 3000 | 5000 | 2000 | 20 | |
| Jamar | 15 | F | 2000 | 7500 | 5500 | 30 | |
| Kim | 25 | A | 20000 | 12500 | | 70 | Overpaid-Dropped |
| Kendall | 15 | B | 200 | 7500 | 7300 | 55 | League Pennant, Super Champ |
| Andre | 10 | 4 | 1600 | 5000 | 3400 | 30 | League Pennant, Profit |
| Randy | 5 | | | 2500 | | | |
| Mike | 20 | E | 500 | 10000 | 9500 | 40 | League Profit, Super Profit |
| Raul | 20 | 3 | 12000 | 10000 | | 45 | Overpaid-Dropped |
| BaiYu | 15 | | | 7500 | | | |
| Krystov | 10 | | | 5000 | | | |
| Tim | 5 | | | 2500 | | | |
| Craig | 5 | | | 2500 | | | |
| Casimir | 5 | | | 2500 | | | |
| Luis | 5 | | | 2500 | | | |
| Shayan | 5 | | | 2500 | | | |
| Beichen | 5 | | | 2500 | | | |
| Jeremy | 5 | | | 2500 | | | |
| Doug | 5 | | | 2500 | | | |
| | | | | | 27700 | | |

Salaries in $000