Examining NBA Contracts

*Sports Contract Insights from a Sports Agnostic*

Introduction:

I have never been a huge sports fan. It is not a trait that was passed on to me by my Yankee
crazed New Yorker family. That being said, however, while searching for appropriate datasets I
happened upon this NBA contract data with player and agent connections. This seemed at first
like a perfect opportunity, as I saw parallels between the player/agent relationship and the
follower/followed relationship of Twitter. I also thought that I might learn a little something about
how contracts within the NBA worked.

The Data:

The data I used for this exploration was drawn from ShamSports.com, a National Basketball
Association (NBA) data analysis website. In particular the data consists of the fields: Player,
Season, Salary, Agent, Agency, Salary Amnesty, Team, Contract Type. The fields in the data
cover all currently existing NBA contracts through 2019. This data is incomplete, as new
contracts will be drafted between now and 2019; however, it contains all existing contracts.

Processing the Data:

After retrieval, there were a few oddities in the data that needed correcting. Firstly, there was
the issue of Mike Conley. According to this dataset, there is an NBA player named Mike playing
for the Memphis Grizzlies who is his own agent. This seemed rather unlikely to me (There’s a
proverb about a defendant who is their own lawyer). On further research I found that Mike
Conley is represented by Mike Conley sr., his father, who also represents several other players.
This simply required me to differentiate Mike Conley, the agent, from his son.
**Seen Above**
Vertices: Players and Agents
Edges: Representation relationship
Color: Which Agent

**Notes:**
Here you can see players clustered on their agents. You can see one self edge that I've circled. This was Mike Conley. In order to differentiate Mike Conley, the player, from Mike Conley the agent, I marked the father as Mike Conley Sr. From the above we may also see that there is a non-uniform distribution of players per agent, with several agents representing many more players than others.
Headline 1: Agents are not Fans - agents have no team affiliation

Created with NodeXL (http://nodeXL.codeplex.com)
Seen Above

- Vertices: Players and Agents
- Edges: Representation relationship
- Color: Which Team (Black represents a teamless person, an agent).
- Grouping: Clustered by agent
- Labels: Agent for cluster (top 13 agents only)

Notes:

As a non-sports fan I had this preconceived notion that an agent might over time develop a strong relationship with a team. I thought that, perhaps, a given agent might represent players from one team or a few teams at most. Perhaps they would become adept at negotiating the best deals with a certain team. As may seen above, this is clearly not true. Even for the small scale agents, it’s clear to see that agents have no real team (represented by color) affiliation. Agents are not fans.
Headline 2: You Want a High Salary? Get Thee to a Popular Agent!


**Seen Above:**

- Vertices: Players and Agents
- Edges: Representation relationship
- Vertex Color: Which Team (Black represents a teamless person, an agent).
- Edge Color: Salary (More green, higher salary)
- Edge Weight: Salary (Heavier, higher salary)
- Grouping: Clustered by agent
- Labels: Agent for cluster (top 13 agents only)

**Notes:**

It would seem that if a player wants a shot at a higher salary, they may want to look into representation by a big agent like Arn Tellem or Jeff Schwartz. It appears as though the players with the highest salaries tend to be represented by the largest agents. There is the occasional exception to this rule to be found in the singleton agents (players that are so important that they have their own private agent); but these are the exceptions. If you want a high salary, it would seem to pay to find representation amongst the popular agents.
Headline 3: The Best Players Have Job Security
**Seen Above:**

- Vertices: Players and Agents
- Edges: Representation relationship
- Vertex Color: Which Team (Black represents a teamless person, an agent).
- Edge Color: Salary (More green, higher salary)
- Edge Weight: Salary (Heavier, higher salary)
- Grouping: Clustered by Contract Type
- Labels: Contract Types

**Notes:**

In the above figure I dropped the opacity on every player agent relationship that was below the top 20% of the salary distribution. In this way it becomes possible to see the projections of high salaried players into their respective contract types. First, a quick explanation of the contract options in reverse order of desirability:

- Amnestied Salary - Reserved for the highest salaries, does not count against a team's salary cap
- Early Termination Option - Player may terminate the contract at will. Player may also extend the contract.
- Guaranteed - A guaranteed contract that must be renewed
- Player Option - Player may extend the contract to already dictated terms
- Qualifying Offers - Offers to retain players, must increase salary
- Team Option - Team may extend the contract to already dictated terms
- Unguaranteed - Team may terminate contract early

We may see from the above graphic that the top 20% of salaries fall primarily into the categories of: Guaranteed contracts, Early Termination contracts, and Player Option contracts. These are the most desirable contracts. This suggests that the players who get paid the most not only have the best salaries, but also the best contractual terms. It pays to be desirable!
Headline 4: The Rookies Shall Inherit the Earth
*Seen Above:*

- Vertices: Players and Agents
- Edges: Representation relationship
- Vertex Color: Which Team (Black represents a teamless person, an agent).
- Edge Color: Salary (More green, higher salary)
- Edge Weight: Salary (Heavier, higher salary)
- Grouping: Clustered by Contract Type
- Labels: Contract Types

*Notes:*

In the above figure I filtered out all contracts that were less than five years in the future. We can see that the vast majority of the contracts that exist are Qualifying Offers. This is most likely because Qualifying Offers are the career path contracts for rookies. The players who have already "Made it" will potentially be too old by the time 5 years have passed. The few other contracts that are not Qualifying Offers belong to particularly distinguished newbies. For instance, Blake Griffin has an Early Termination Option contract through 2018. He was also named by Sports Illustrated as one of the NBA’s "15 Greatest Rookies of All Time". It's clear to see that the only type of contract that is typically negotiated into the future is the Qualifying Offer. This is an indicator of the phasing out of older players, and thus, the rookies shall inherit the Earth.
NodeXL Critique

I quite like NodeXL. It allowed me to quickly and easily generate compelling network diagrams. I would say that it has a few frustrating drawbacks; however, definitely a useful tool. Its biggest drawback is certainly the fact that it cannot undo actions.

Strengths

NodeXL goes out of its way to make it easy to import data. I personally chose to import data from an open excel worksheet; however, my choices were numerous. The ability to import from an existing worksheet essentially renders any row formattable relationship usable by NodeXL. Within minutes I was looking at a complex network diagram with vertices and edges representing the NBA agent/player relationships. The fact that NodeXL is married to Microsoft Excel really helps as well. Excel is a powerful tool, and NodeXL being resident gives it all of Excel's power for free. I appreciated the ability to squarify the groupings into meaningful boxes. The ability to manipulate the layouts of the data was powerful.

Weaknesses

NodeXL has a few key weaknesses. The first that I encountered was operating system dependencies. I tend to work mostly on OS X, and NodeXL requires Windows. This required me to use my desktop (primarily a gaming machine) for the project. The second that I encountered was NodeXL’s absolute inability to undo any action you’ve taken. If a user finds themselves in a state to which they might want to return, they must save the document to a new file, else risk having to retrace their steps to return. The third that I ran into was the inability to cluster data within clustered groups. There were times where I would have liked to have clustered players on agents, and then within agents, on teams.

Suggestions

To begin with, I believe that it is imperative to port NodeXL to other operating systems; certainly to OS X, which has Excel. Secondly, if it would be prohibitive to support an undo action, perhaps an aggressive autosave with versioning could solve the same problem. Overall, though, I thought it was a very well made piece of software.