

PHANTOM VALUATIONS: A NEW APPROACH TO  
VALUATION OF SPORTS FRANCHISES

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## ABSTRACT

This thesis shows that valuations published by Forbes.com differ from actual transactions in the NBA market. Since the year 2000, Forbes has published valuations for teams in major American sports leagues, one of which is the NBA. Often touted as the gospel truth in sports business, Forbes valuations are often quoted on fan message boards, local radio stations, and ESPN programming. However, since 2000, Forbes valuations have under predicted actual transaction prices by \$153 million dollars, 50% below the actual selling price of 20 transactions in the 21<sup>st</sup> century. The stark difference between Forbes and market prices is then attributed to two financial factors: revenue and reported income. Forbes assigns a significantly lower multiple to revenue than actual market participants, possibly due to NBA market structure or an exogenous reason such as ego and prestige. While revenue is often regarded as the primary driver of valuations, this paper finds that income is actually a more accurate predictor of actual market prices. Because income is a primary driver of price and value, NBA teams can be regarded as a significant financial asset.

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## Introduction

In April 2014, videos surfaced of then Los Angeles Clippers owner Donald Sterling making racist comments precipitating his rapid decline and eventual force sale of the team. Within the month, Steve Ballmer had contacted the Sterling family as well as the NBA in order to buy the team from the much maligned owner. Steve Ballmer agreed to pay Donald Sterling \$2 billion in cash for his ownership stake of the Los Angeles Clippers. The sale price broke records for the most expensive team in NBA history and was over 3 times the estimated market value produced by Forbes (Witz 2014). While media attention and fandom more than likely elevated the price Ballmer was willing to pay in 2014, the year before, a group of hedge fund managers purchased the Milwaukee Bucks for \$550 Million, once again over the estimated market value produced by Forbes. New owner Marc Lasry said the Bucks were undervalued in the marketplace and presented a wonderful investment opportunity due to demographic dynamics, revenue-share restructuring, and the impending new television contract (NBA 2014).

Based off these two cases alone, there is clearly a disconnect between Forbes' valuation techniques and actual market prices observed in transactions. Much scholarly research has studied which valuation factors are used by Forbes and market participants in order to come up with a market price. Some people, such as David Berri (2014), have tried to attribute NBA valuations to on-court factors such as "Star Power" or on-court competitive balance. In such tests, having a "Star" did positively correlate to increasing valuations. However, overall team wins is still an important performance metric that drives consumer demand, and thus increased team valuations (Berri et al. 2004). While Berri only looked at team performance in the 1990s, Scelles and Helleu (2013) continued his methodology and determined that historical team

performance (as measured by wins and losses) was the only performance metric that had a positive impact on team valuations from the conception of the NBA to the contemporary period.

Other factors that are considered drivers of team value are: stadium ownership (Humphreys 2008), revenues/profits and an ego factor (Vine 2004). Humphrey (2008) used a hedonic pricing model in 2008 to determine that facility ownership is not a statistically significant factor in NBA market prices. His work confirmed early research by Kern which found that team relocation, new stadiums, and regional identification did not have an effect on NBA valuations (Kern 2004). One factor that is virtually a consensus determinant of NBA team value is revenue and not profits (Scelles and Helleu 2013). While revenue is a reliable indicator to determine how much cash a particular team can generate, profit figures are highly dependent on the financial management and incentives of the current ownership (Vine 2004).

### Literature Review

While previous literature has explored a variety of factors which contribute to NBA team values, there has not been research exploring the difference between Forbes' valuation estimates and actual transaction prices. Additionally, as the NBA is about to restructure an ostensible \$100+ billion TV deal next season; it is pragmatic to consider previous research and current media coverage on the subject. I use statistical analysis in order to determine what factor's NBA owners consider buying a franchise that Forbes seems to discount.

While the ownership change of the Los Angeles Clippers was highly covered, this is most likely due to the racial comments made by previous owner Donald Sterling and the buyer, Steve Ballmer, being a Los Angeles celebrity. More often than not, however, ownership changes happen without much mainstream media coverage. In fact, NBA franchises have been sold 33

times since the mid-1970s, the most of any professional sports league (Fort 2009). Many players, fans, and area residence often take pause at ownership changes. As Keating (2015) points out, during the last several collective bargaining discussions, player's apologists believe the players should secede from the league and start their own league. However, even in brief periods of lockouts, the NBA has maintained its current structure, and owners have walked out the entire better. While this may make some fans disgruntled, John Jasina and Kurt Rotthoff (2008) show that ownership changes in NBA franchises have a material positive effect on the clothing industry in a local NBA market, and negative effect on employment in the liquor industry. Jasina and Rotthoff's work is an example of recent studies into how sports franchises directly affect surrounding economic areas. While casual observers think of their local NBA teams on court performance, these sport behemoths are having an increasing effect on regional productivity (Jasina and Rotthoff 2008). Given the hot market for NBA teams, 13 teams have changed hands since 2010, and the increasing impact NBA teams have on the community at large, it is important to study how market participants are deriving the true value of these franchises (Keating 2015).

Due to the leverage constraints, which stipulate that an NBA owner must use over 50% equity in the purchase, the NBA can typically eliminate a quarter of the bidders from the auction. Breaking down the ownership percentage, the NBA can eliminate even more potential bidders by certain ownership percentage thresholds. The NBA maintains that, in an ownership group, one individual must have majority control of the team while others of the group have to maintain a certain minimum percentage (MacFayden 2010). The NBA's rational behind this rule is unclear. However, the NBA may require one majority owner so that during labor negotiations, it is easier to hear from one individual rather than a total grouping. After observing the leverage and ownership position, the league considers the net worth of the owners and the reasoning why they

are purchasing the franchise. Financial sponsors, media/telecom companies, as well as wealthy individuals are typically listed as potential buyers for NBA franchises. The league meticulously monitors why each ownership group wants to buy the franchise and how their business plan would have long-run positive effects on the team, the community, and the league as a whole (MacFayden 2010).

The last, but most important, factors that the NBA considers when conducting a sales auction are the transaction price, as well as the personal character of the majority owner. The purchase price is an obvious, but disputed, figure to consider when conducting a sales auction. The NBA has a fiduciary duty to conduct an auction which provides ample financial benefit for the selling party. The other important point of consideration is more obscure - the personal character of potential owners. As Luis Ochoa (2013) notes, purchasing an NBA team is more than buying a luxury car. Rather it is like purchasing a seat at the table of the elite NBA fraternity. NBA owners interact amongst each other in a variety of avenues - during bargaining negotiations, league wide revenue sharing opportunities, as well as licensing agreements. Many NBA owners have been with the league for years and prefer a certain way of conducting business. Through conduct due diligence, the NBA determines owners worthy of purchasing a seat at the elite table (Ochoa 2013). While examining the bias in the auction for NBA teams could be another avenue of study, this paper will focus on how potential buyers determine the true value of an NBA franchise.

While firm value is an issue discussed in depth in many other industries, there are currently only eight articles which deal with valuing professional sports franchises. These articles can be split into two camps: those that observe actual transaction prices (Humphreys 2008 and 2010) and those that observe values published by Forbes (Vine 2004, Kern 2004,

Buschemann and Deutscher 2011, Miller 2009, Scelles/Helleu 2013). Debate between these two camps start with what the very the definition of sports franchise firm value is. The debate between what constitutes firm value is a fundamental question across asset classes. In liquid securities such as publicly traded equities, value is either defined as the dollar value of the security traded at a particular point in time, similar to the transaction approach of Humphrey (2008), or the perceived value of the stock at a future point in time, akin to the methodology of Vine (2004). The definition of “firm value” I will use for NBA franchises builds both on Vine and Humphrey’s framework. I am going to determine why the actual transaction prices of NBA teams differ from the perceived future price of these assets. Common finance theory believes that transaction prices should converge with perceived future valuations, as an asset should trade at its intrinsic value- the present value of cash flow into perpetuity (Damodaran 2011). Because the transaction prices and perceived future valuations differ greatly, there is a difference in theory surrounding the actual value of NBA franchises.

There are currently two main theories surrounding purchase rational for sports franchises. Some believe that NBA teams represent a financial investment which should trade at fundamental intrinsic value as defined by Domadaran (2011) and other finance scholars. Badenhausen and Kump (2005) have shown the increasing value of NBA teams over the past decade, rising threefold. Additionally, Hubman (2011) examined a portion of publicly traded franchises across a variety of sports. He found that these publicly traded sports franchise represented market anticipations of future cash flows, and traded at consistent relative valuations. The analysis of publicly traded sports teams also showed that fan interest, better defined as the utility of holding a particular investment over another, was minimal over long periods of time for these publicly traded franchises. Additionally, Vine (2004) hypothesized that owners purchased

sports franchises for revenue growth opportunities as well as the tax write-off advantages that owning a sports franchise provided. In aggregate, Vine (2004) argued that owners might purchase a franchise for more than the present value of future earnings opportunity, but this premium was due to tax advantages realized through the investment opportunity. Hubman (2008) and Vine's (2004) work is substantiated by the ownership tenor of Donald Sterling who used cost-cutting and profit maximization measures in order to increase his team's value (Badenhausen and Kump 2005).

Contrasting the claim that owning a sports franchise is purely an investment opportunity is the work of Phillip Miller (2009) who used an econometric approach to show that transaction prices do not reflect fundamental firm value and attributed this disconnect to a perceived ego effect. Miller (2009) used variables such as facility age, revenue, team performance, and ownership structure in order to determine firm value. After running multiple regressions, he found that the fundamental values of recent transactions were still far below the actual transaction price. Miller attributed this gap to an ego effect which represents all the intangible or non-financially accretive benefits that go along with owning an NBA franchise. Owners get premier tickets, extended media coverage, and the ability to control the operations of their own sports team. These "intangible" benefits all provide a certain utility which are factored into the inevitable purchase price of an NBA franchise. Miller's theory is substantiated by William Putnam of the Atlanta Hawks who said he purchased the team not for investment opportunity or tax benefits, but rather the prestige that comes along with owning a sports franchise (Vine 2004). In my analysis, I will take into both the intrinsic value and ego theories to determine if recent purchases follow the financial rhetoric of Domadaran (2011) and the intangible aspects of Miller (2009).

To determine firm value, and test the two above theories, scholars have used a variety of variables: stadium ownership, income generation metrics, home market dynamics, and team performance. Stadium ownership is often a consideration when purchasing a sports franchise. In the 1997 purchase of the New York Knicks as well as the 2003 Washington Redskins, total stadium ownership rights were exchanged (Humphrey 2008). Humphrey showed how in these transactions, final pricing was determined not only by the revenue generating potential of the team, but of the underlying stadium real estate. Additionally, these stadiums could host other accretive events other than sports games of the underlying team, such as concerts, other sporting events, and private events. In these particular situations, Humphrey (2008) determined that transaction prices discounted the value of stadium ownership along with the value of the franchise. Continuing Humphrey's work, Miller (2009) also observed the effect of public vs private ownership of an NBA teams' stadium. Miller found that owners do not particular care to have the stadium be publicly or privately held, but will make the financing decision based on the financial benefit of the ownership structure.

Another variable in the valuation of sports franchises is their income characteristics- mainly revenue and profitability. Vine (2004) and Kern (2004) both used past Forbes Valuations as well as transaction data to determine whether revenue or profit was a more important measure driving firm value. Vine found that revenue was the most important driver for firm value historically (Vine 2004). While teams' profits had declined historical, revenues had continued to rise in lock-step with firm valuations. Vine attributed this affect to two reasons: owners often under report financial data and the tax benefit realized from owning a franchise. Because a vast majority of NBA franchises are not publicly traded, information on team finances is not publicly disclosed. Forbes surveys team employees and owners in order to get a basis for their valuation.

Vine (2004) hypothesized that many of these owners under report their profit figures. Under reporting profit protects the reputation of the owner in the public and provides for a tax-shield. Many NBA owners are billionaires, and recording an operating loss on their franchises provides a tax benefit, subtracting from their regular capital gains (Vine 2004). Vine also theorized that Forbes uses revenue as a source of valuation because it is a figure more representative of long-term values. Operating income can fluctuate year to year based on a variety of onetime factors, while revenue is indicative of long-term successes. For these reasons, Forbes uses revenue figures in their valuation metrics (Vine 2004). Similar to Vine, Kern (2004) also explored the effect of owners reporting information. Kern hypothesized that, while revenue is a key driver of firm valuation, owners purposefully under-report revenues so that players do not demand a lion share of increased revenues. The NBA has a prominent labor union, and the union has historically demanded increased wages when team revenue increases. Therefore, Kern (2004) states that owners under report revenue to avoid paying employees higher wages. Kern's theory is substantiated by investigative work done by Nate Silver of fivethirtyeight.com (currently, a subsidiary of ESPN). Silver found that the NBA disputed Forbes' valuations and purposefully underreported profits during the 2010 labor dispute (Silver 2014). Silver said that the NBA never specifically releases details on its financial condition or its accounting procedures so that the owners have a competitive advantage in labor negotiations (2014).

In his same 2004 paper, Kern also examined common management tactics and whether these tactics added value to the franchise. Common management tactics such as team nomenclature and stadium relocation all surrounded around the home market dynamics of the professional sports franchise. Kern found that management tactics, to manipulate the home market of a particular franchise, did not add value to the firm. The lack of accretive value in

management decisions to relocate, rename, or re-brand the team shows that home market dynamics are not an important factor in deriving firm value (Kern 2004). Ostensibly, the findings show that actual ticket sales, which are a function of home market income and population, are not as important as national licensing and television contracts.

However, more modern research shows that home market dynamics and in stadium experience matter more often now than in the past. Bushemann and Deutscher observe NBA firm value by attendees per game and a supposed Fan Cost Index (2011). The Fan Cost Index is a price weighted index, published by the NBA each year that tracks the price of a family of four attending a standard home game for that franchise. The researchers theorized that if a team had a higher Fan Cost Index, combined with above average attendance per game, than the NBA team would have a higher valuation due to this consistent revenue stream (Bushemann and Deutscher 2011). Peter Keating continued Bushemann and Deutscher work, and used the modern examples of the Oklahoma City Thunder, as well as the LA Clippers, who have adopted the old San Antonio Spurs model: focus intently on customer service at home, and market the team worldwide (Keating 2014). Further, Nate Silver of ESPN theorized that NBA franchise values depended on the old real estate adage: “location, location, location” (Silver 2014). To substantiate his hypothesis, Silver took the annualized change of NBA franchise values from 2004 to 2014 and observed metropolitan areas that had a gross domestic product of at least \$250 billion as of 2004 and found that franchises located in these regions had higher average rates of return than the rest of the league (Silver 2014). Further, Silver maintains that star players come and go, profits and losses fluctuate, but the only consistent over long-periods of time for these sports franchise is their home town identity. If a metropolitan area has high domestic product, and a handful of billionaires, than the estimated Forbes valuation will be higher (Silver 2014).

Stadium ownership, revenue, and management tactics are all variables tangential to the actual on-field performance of an NBA franchise. The final category of variables that scholars have studied revolves around team performance. Scelles, Helleu and Durand (2013) examined how on field performance, as measured by winning percentage, was the only variable that had a strong positive impact on firm value across all professional sports leagues. The researchers theorized that teams with higher winning percentage tended to have more social media followers, a proxy for television viewership and licensing sales, driving higher firm valuations (Scelles Helleu Durand 2013). While Scelles et al. studied professional soccer, football, hockey and basketball, Berri (2004) studied the NBA specifically. Berri found that the NBA had the most competitive imbalance of any league, and hypothesized that the role of a “Star” player such as Michael Jordan or LeBron James would have a positive effect on firm values. While the effect of a Star did positively correlate to firm value, team performance as measured by winning percentage was the main driver of consumer demand (Berri 2004). Scully (1995) theorized that teams develop reputations as “winners” and “losers” based off of a recency bias towards easily remembered seasons. Scully found that teams that are deemed “losers” tend to sell more often at a discount because potential buyers believe they can quickly turn the on-field performance around driving firm value higher (Scully 1995).

While many scholars have debated the relative merits of certain factors on team value, the United States Court of Appeals, Seventh Circuit, had to make a legal ruling on NBA franchise values in 1987. In 1972, members of Illinois Basketball Inc. (IBI) sued Chicago Professional Sports Corporation (CSPC) claiming that CSPC had prevented IBI from purchasing the contract for the Chicago Bulls (Vogel 1999). The court found that the CSPC violated sections 1 and 2 of the Sherman Act and were forced to pay recoverable economic damage to the IBI. To

do so, the court had to determine the 1977 franchise value of the Chicago Bulls, subtract this “value” from the purchase price of the Bulls in 1972, and have the CSPC pay IBI the difference. As is the purpose of this paper, the court determined that the valuation of a sports franchise is not an exact science, and that experts disagreed with the proper method of valuation (Vogel 1999). Therefore, the court took their own valuation approach which involved a present value calculation of assets held by the 1982 Chicago Bulls. The valuation technique used by the court had several interesting facts. First, the court did not just look at the Bulls’ assets, but used an average for five comparable teams’ and accounted for differences in accounting and tax law to come to a more comparable analysis. Further, the courts did not consider players contracts as an asset, although many experts consider the value of players in the calculation of NBA firm value. Additionally, by just looking at the assets of the team, and not the income statement, the courts ignored revenues generated by the Bulls as well as the media distribution rights that the Bulls held (Vogel 1999). In doing so, the courts ignore many factors that current scholars use to determine market franchise prices- distribution rights, revenue, and player’s talents. In her examination of the court’s proceedings, Vogel (1999) found that the courts methods of valuing a franchise showed that purchasers seem willing to pay a significantly higher price than the court suggests, showing that the court is leaving out significant valuation factors such as the ego effect, revenue, and intangible assets.

While there is much scholarly debate about the determinants of sports franchise value, there is no doubt about two facts: that NBA franchises are rising in perceived value, and that owners are getting richer. According to economic research done by WR Hambrecht+Co (2011), the personal consumption expenditure (PCE) economic reading for the spectator sports segment reached \$22.4 billion in 2011. PCE, which tracks disposable income consumption in the US, had

a 3.1% compounded annual growth rate for the broader economy from 2006-2011. The spectator sports segment outpaced the broader economy, growing at 5.1% CAGR over the same period (WR Hambrecht+Co 2011). Expansion was rampant across the spectator sports universe, and Keating (2014) and Silver (2015) studied how NBA franchises specifically were growing. The researchers found that NBA franchises have increased an average of 9.2% per year from 2004-2014, and that owners in the NBA now have an average net worth of \$3.3 Billion (Silver 2014 and Keating 2015). Additionally, whether it is the long-term perspective of owners, the illiquidity of NBA franchises, or the sizeable rate of return, NBA team owners hold onto their franchises for an average of 14 years (Silver 2014). Scully determined that NBA franchises often are held for long periods of time because sales only occur when there is a large difference of opinion between buyers and sellers (1995). For instance, periods of labor disputes, rule changes, or general economic downturns would be a period where the league should experience many sales.

While Scully theorized periods of economic downturns result in more transactions, WR Hambrecht+Co (2011) showed that the spectator sports industry has performed well even during stormy economic times. For instance, during the Great Recession, the industry grew in absolute terms as well as a percentage of PCE (WR Hambrecht+Co 2011). WR Hambrecht, a sports finance consultant, found that sports franchises are resilient to economic downturns for a variety of factors. While not totally immune to general market fluctuations, the spectator sport industry benefits from long-term contracts and a diversity of revenue streams. Television contracts, licensing agreements, sponsorships, and game day sales are a few of the major revenue for sports teams, most of which are signed over long periods of time, and therefore, are not as susceptible to short-term market fluctuations (WR Hambrecht+Co 2011). Further, consumers turn to sports

in strong and weak economies due to loyalty, passion and entertainment value. WR Hambrecht (2011) found many positives for holding onto sports franchises during times of economic downturns which substantiate Scully's findings. Because NBA franchises hold their value well during periods of poor economic performance, potential investors would be more likely to bid for attractive growing brands during broader market contractions, while current owners may choose to sell their teams to compensate for other failing investments.

Due to the long holding period for NBA franchises, it is helpful to compare the price appreciation of these assets to other illiquid or infrequently traded assets such as fine wine and art. Studying the price behavior of fine Bordeaux wine in the mid-1990s, Burton and Jacobsen found that the risk adjusted returns for holding an investment portfolio of wine was not statistically better than holding market equity indexes over the same period (2001). While Burton and Jacobsen found that wine is not a substantially better investment than equities over a short period of time, Goetzmann looked at longer periods of time, and observed whether holding fine art would outpace the S&P 500 (1993). Goetzmann systematically created a price index of a variety of paintings starting at the turn of the century. He then tracked their changes in value at auctions and determined if the annualized changes in value outperformed the S&P500. Goetzmann theorized that the lack of information as well as the user benefit of holding art caused a price index of art to trail the S&P500 (1993).

While observing how art and wine trade compared to stock indexes is helpful, there are some structural differences between these non-capital asset classes and NBA franchises is the markets in which they trade. Every so often, similar wines and art are auctioned off. While this provides asset owners with more updated price discovery, auction house commissions and insurance are significant transaction costs, cutting into the risk-adjusted returns of these assets.

On the other hand, NBA franchise owners find buyers independently, or are approached with a hostile takeover. Additionally, fine art and Wine are tangible assets, subject to weathering and physical depreciation. On the contrary, NBA teams are intangible assets, as the team is a brand name with surrounding contracts, royalties, and obligations. However, an NBA team in and of itself is an intangible being.

While previous scholars have compared Forbes valuations and actual firm value in isolation, I use a dynamic approach, comparing actual transaction prices to published firm valuation. I use the previously studied variables and compare their impact on published Forbes Valuations from 2000-2015, and compare these same variables to actual transaction data over the same period of time. I believe that Forbes and observed transaction prices will be statistically significant due to a perceived ego effect. Further, I will track transaction prices of NBA franchises to see if these illiquid assets trade such as Fine Art and Wine.

While many scholars focus on the merits of purchasing a team, the valuation of the purchase prices, or the thought process in market price discovery, few consider the logistical hurdles required to actually purchase a sports franchise, specifically in the NBA. Most of the research published on the logistics of purchasing a franchise comes from sports investment bankers. Ken MacFayden in *The Dealmaker's Journal* recently interviewed sports M&A expert Charles Baker about the dynamics of purchasing an NBA franchise (2010). Charles Baker, who works for DLA Piper, used the sale of the Golden State Warriors in 2010 as his main example (McFayden 2010). Prior to the emergence of Steph Curry and Klay Thompson in 2015, the Golden State Warriors were bottom-feeders, having not won a championship since the mid-1970s. However, the team fetched a then record \$450 million sale price, shocking much of the

mainstream media (MacFadyen 2010). Shortly after the purchase, Larry Ellison, Oracle's CEO, came out publicly stating that he had the highest bid and lost the sale price.

In the NBA, the highest bidder does not guarantee the purchase of the team. As MacFayden (2010) points out, there is more than just the valuation that potential owners must consider when purchasing a franchise. In the NBA especially, it is not up to the discretion of the selling party to agree to a purchase. Instead, the NBA commissioner, currently Adam Silver and previously David Stern, ultimately have the power to decide who can buy the for-sale franchise (MacFayden 2010). Once an owner decides he wants to sell his franchise, he submits a request to the league office. From there, the league conducts an auction and asks potential buyers to submit a formal proposal. These proposals include a variety of factors that the NBA considers important for potential owners besides their potential purchase price. These include: the amount of financial leverage the potential buyers are using, how many owners the buying group has, the percentage owned by each buyer, as well as the "personal character and conduct of each purchasing party" (MacFayden 2010). The league performs due diligence on the financial health of their potential owners as well as to avoid potential ownership disasters such as what happened in 2010 to the New Orleans Hornets. Due to uncertain economic times, excessive leverage, and heavy commodity exposure for the Hornets owner George Shinn, the league had to purchase the failing franchise. This caused an unneeded headache and conflict of interest for the league, something the NBA vowed to avoid in the future (Times-Picayune 2010). To combat excessive leverage, the NBA has established leverage thresholds for debts secured against the owner's interest in the team, a higher limit for unsecured debts, and the highest leverage ratio for debts secured against home stadium real estate (MacFayden 2010).

## Methodology

Before describing the data, it is important to understand that projecting any tangible financial, intangible financial, and intangible non-financial metrics for NBA teams is an inexact science. First, consider the biases surrounding financial data collection. Every time the NBA Players Union and NBA Owners Coalition argue labor contracts, owners are required to publish figures on their operating revenues, profits, and distributions for negotiation purpose. While these figures do provide some insight into a team's financial health, the numbers are inherently biased. Owners and their advisors are incentivized to under recognize revenue and under report earnings, through aggressive accounting measures, because they often do not want to give away how profitable their franchises are. If owners reported exact figures, they would lose negotiating power with the players union. Therefore, it is prudent to be skeptical of many teams' financial statements.

While some teams publish audited financial statements regularly to State and Local governments for tax purposes, this is not the case for the whole of the NBA. Further, when owners do report annual audited statements on their teams financial performance for tax purposes, often the teams report steep losses through accelerated depreciation tactics and delayed revenue recognition. The owners are incentivized to report losses on their tax statements to provide a tax benefit to their otherwise hefty tax obligations. For these and other reasons, net income features are often skewed to the downside. Therefore, for financial purposes, it is hard to get an absolutely accurate metric.

Looking past tangible financial metrics, the water is equally as murky for intangible financial variables. Often times, researchers look toward brand image, home market dynamics,

and team performance for valuation purposes. To start, brand image in and of itself is an arbitrary metric. While some research exists to assign the “value” of a team’s brand name, the estimates are often a best guess. Further, a team’s brand image is also a function of their home market dynamics which introduce covariance between intangible variables. On the one hand, a team’s home market is a useful proxy for brand image and firm value. Home fan-bases provide the concentrated basis for a team’s brand image. The bigger the surrounding area of an NBA team, the more fans they should have on average. However, because the NBA is now a truly global game, fandom crosses more than State and Country lines. Rather, NBA home markets may be better defined as their average viewership per televised game and amount of merchandise sold. The last, “intangible” for a team is their relative performance. This can be based off of wins and losses, but is also a subjective figure. As teams who have had historically strong performance would be expected to win more games the next year than a historic bottom feeder. Parity in the NBA has made this less of an issue, but win/loss expectations are still present. Add in the presence of star players, free agency additions, or management changes and expectations have a relative meaning across teams. When counting the value of intangibles, it is important to consider the above factors to give a blended less biased view on a team’s intangible value.

The final variable to take into account the non-financial intangibles that effect intangibles- mainly the cognitive utility provided for purchasing an NBA team. This variable is inherently biased because it is different for each person. Some owners may own multiple franchises across sports, and therefore the purchase of the additional NBA team provides relatively less utility per transaction. Overall, each purchase provides a purely relatively level of utility for the NBA owners and should only be used when looking at actual transaction prices and not Forbes’ valuations.

With these relative biases in mind, I came up with my methodology for research. I obtained a database of spreadsheets compiled by Rod Fort (2009) of the University of Michigan. Fort's research revolves around the efficiency of sports markets, the value of sports brands, and the relative performance among sports leagues. Due to his nature of study, Fort's database was ripe with information about precedent transaction values, published Forbes valuations, team revenues, and a variety of other factors. In addition to Fort's database, the other data I used comes from Forbes (2015) most recent publication of their sport team values.

To estimate the model that Forbes uses to come up with their valuations, I started directly at the source- reading through the notes of the most recent Forbes report. While the Forbes research does not give their exact methodology, they attribute their valuation figures to a combination of revenue and "home team dynamics". The specifics of each of these variables are unknown, so I was left to determine whether Forbes used a historical revenue figure and various specific home market dynamics. Using my best guess, I regressed the published Forbes valuation figures on year prior historical revenue. My data ranged from Forbes published valuations from 2006-2015 and team reported revenue figures from the same seasons. In total, I had 150 total observations for both Forbes values and accurate revenue figures. To ensure data consistency, I adjusted all data for inflation, putting all values in 2015 constant dollars. Then, I regressed prior year revenue on Forbes' NBA value. While this was an inexact exercise, it was my best guess at the time and provided a rough estimate toward the Forbes model.

My goal was to obtain a statistically significant coefficient and revenue multiple for the Forbes model. I believed revenue and Forbes values would have a strong relationship because Forbes admits this is a component for their model. With a coefficient and revenue multiple to work with, I used Rod Fort's (2009) database to observe all NBA transactions from the 21<sup>st</sup>

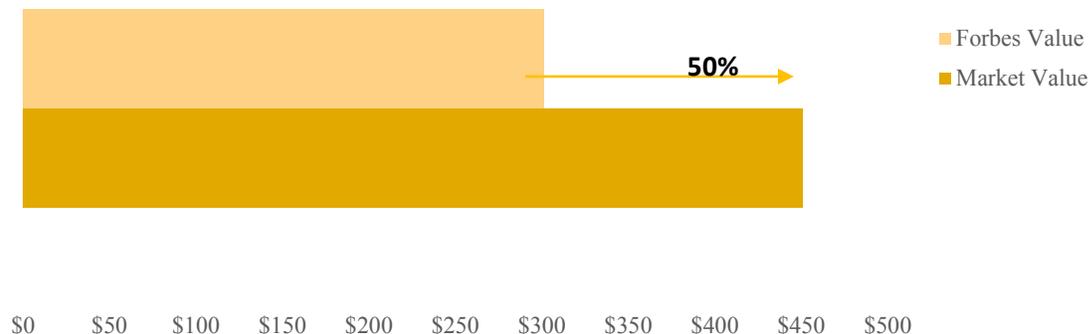
century. To check the accuracy of the Forbes revenue model derived in the step above, I took prior year revenues for each team that was bought in the 21<sup>st</sup> century, adjusted these values for inflation, and observed the difference between what the Forbes revenue model says true value is, and what prices market participants actually paid.

Additionally, I analyzed team operating income, adjusted for inflation, and on Forbes published values. I looked at these values to test previous research and see if operating income and had any statistically significant impact on Forbes valuations. If statistically significant, I would test the Forbes model on NBA transactions in the 21<sup>st</sup> century, and follow the same methodology outlined in my discussion of the Forbes Revenue Model.

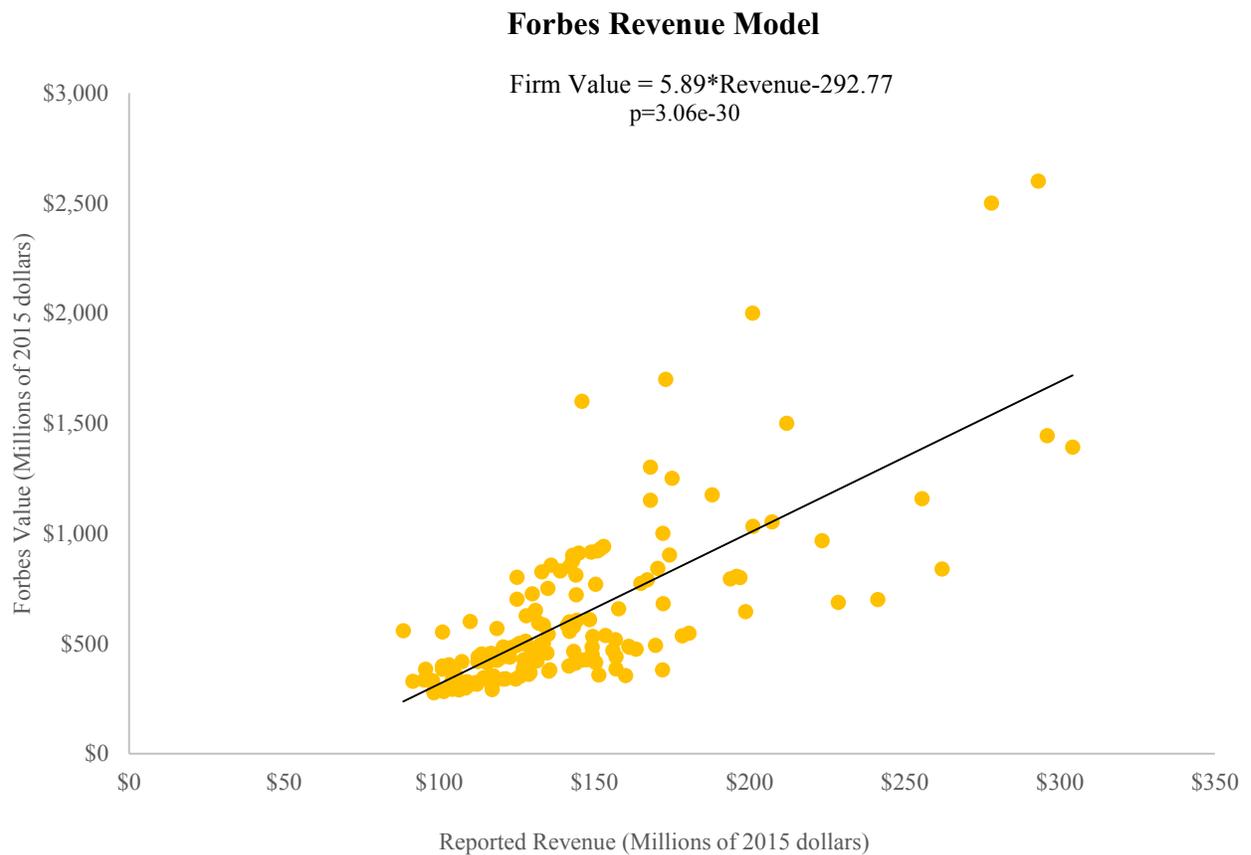
## Results

The first preliminary question in my thesis was simple- do Forbes published valuations, on average, differ from actual transaction prices. I used 20 transaction prices from the year 2000-2015 because these were years that Forbes published NBA team valuations. I found that, on average, Forbes under predicts corresponding transactions by \$153 million dollars, a difference over 50%.

### **Average Prices**



With my original thesis substantiated, I then followed my previously discussed methodology to find a workable Forbes model. Overall, I found a statistically significant revenue multiple and statistically significant coefficient for the Forbes Revenue Model.



Overall, Forbes published valuations and prior year revenue having a high correlation and a statistically significant coefficient and intercept. From the data, the Forbes revenue model for NBA team valuation is:

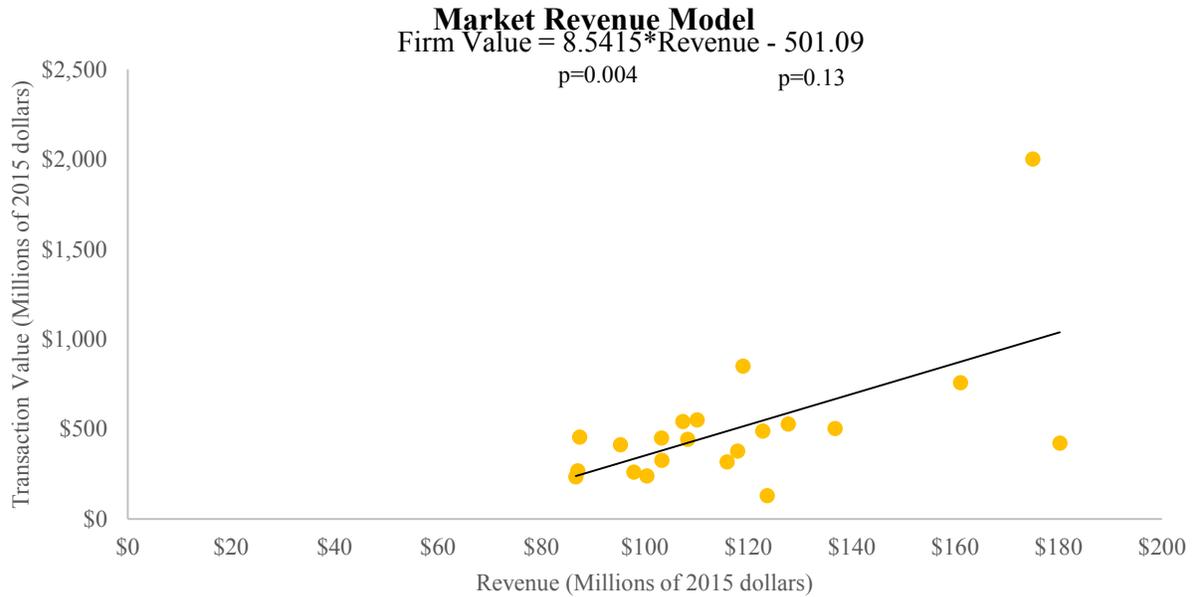
$$\text{Expected NBA value} = -292.77 \text{ million} + 5.49 * \text{prior year revenue}$$

The regression implies that a 5.49x revenue multiple is justified for NBA franchises. With this model in hand, I applied the formula to previous transactions. In doing so, I found a stark difference between actual transaction prices and what Forbes believes the actual transaction prices should be.

Forbes Revenue Model (Millions of 2015 Dollars)							
Year Of Transaction	Team	Prior Year Revenue	Model Price	Transaction	Diff from Model	Forbes Value	Diff from Trans
2000	Dallas	\$161	\$656	\$757	\$101	\$230	(\$527)
2000	Denver	\$103	\$315	\$450	\$135	\$241	(\$209)
2000	Vancouver	\$87	\$218	\$234	\$16	\$162	(\$72)
2001	Seattle	\$87	\$220	\$268	\$48	\$250	(\$17)
2002	Boston	\$128	\$460	\$527	\$67	\$279	(\$248)
2003	Toronto	\$124	\$435	\$129	(\$307)	\$321	\$192
2004	Atlanta	\$98	\$284	\$261	(\$23)	\$254	(\$8)
2004	New Jersey	\$118	\$402	\$377	(\$25)	\$306	(\$70)
2004	Phoenix	\$137	\$513	\$503	(\$10)	\$354	(\$149)
2004	Charlotte	\$100	\$299	\$238	(\$60)	\$271	\$33
2005	Cleveland	\$87	\$222	\$455	\$233	\$432	(\$23)
2006	Seattle	\$95	\$268	\$412	\$143	\$275	(\$136)
2009	New Jersey	\$108	\$345	\$442	\$97	\$367	(\$75)
2010	Charlotte	\$103	\$315	\$326	\$11	\$302	(\$24)
2010	Golden State	\$123	\$431	\$489	\$59	\$342	(\$147)
2011	Detroit	\$180	\$769	\$422	(\$347)	\$405	(\$16)
2011	Philadelphia	\$116	\$390	\$316	(\$74)	\$371	\$55
2012	Sacramento	\$107	\$339	\$542	\$202	\$333	(\$209)
2014	Milwaukee	\$110	\$356	\$551	\$195	\$418	(\$133)
2014	Los Angeles	\$175	\$738	\$2,002	\$1,264	\$593	(\$1,409)
2015	Atlanta	\$119	\$408	\$850	\$442	\$825	(\$25)
				<b>Average</b>	<b>\$103</b>	<b>Average</b>	<b>(\$153)</b>
				<b>High</b>	<b>\$1,264</b>	<b>High</b>	<b>\$192</b>

According to the Forbes revenue model, market participants have paid on average \$103 million over the true value of the franchise. Steve Ballmer's purchase of the clippers seems especially egregious, paying \$1.26 billion more than the Forbes revenue model deems as fair value. The chart above also shows that Forbes values, on average, under predict transaction values by \$153 million dollars. Regressing transaction prices on prior year revenues, I found that the transaction prices had a statistically significant revenue multiple of 8.54x prior year's figure,

showing that market participants are willing to pay a full 2.7x more previous years revenue than the Forbes model believes market participants should.



Because the tests of significance on revenue were successful, I then looked at the other widely available financial figure- operating income. Previous research has said that operating income is not a reliable figure when projecting valuations. However, my regression, shown on the next page, found a strong statistical relationship between operating income and Forbes published valuation.



Therefore, there exists a working model for Forbes' valuations based on income prospects. In order to rid the model of negative values, which skewed the data and coefficient, I took a 3 years prior average of each team's income. The following equation shows the working income model for NBA teams.

$$\text{Expected NBA value} = 205.32 \text{ million} + 11.85 * \text{prior year operating income}$$

The regression implies that team's with no prior year revenue is worth \$205 million as a baseline, and the firm's value increases by \$11.85 million with each \$1 million in previous year operating income. Similar to the Forbes revenue model, I tested the income model on transactions in the 21<sup>st</sup> century to see if income was a better predictor of NBA transaction values than revenue or Forbes published values.

<b>Market Income Model (Millions of 2015 dollars)</b>					
<b>Year Of Transaction</b>	<b>Team</b>	<b>3 Year Average Income</b>	<b>Model Price</b>	<b>Transaction</b>	<b>Difference from Model</b>
2000	Dallas Mavericks	\$22	\$532	\$757	\$224.98
2000	Denver Nuggets	\$15	\$428	\$450	\$21.93
2000	Vancouver Grizzlies	\$13	\$398	\$234	\$164.45
2001	Seattle Supersonics	\$5	\$280	\$268	\$11.77
2002	Boston Celtics	\$16	\$443	\$527	\$83.88
2003	Toronto Raptors	\$2	\$235	\$129	\$106.22
2004	Atlanta Hawks	\$12	\$384	\$261	\$122.48
2004	New Jersey Nets	\$9	\$339	\$377	\$37.53
2004	Phoenix Suns	\$27	\$606	\$503	\$103.02
2004	Charlotte Hornets	\$3	\$250	\$238	\$11.42
2005	Cleveland Cavaliers	\$12	\$384	\$455	\$71.73
2006	Seattle Supersonics	\$21	\$517	\$412	\$105.57
2009	New Jersey Nets	\$9	\$339	\$442	\$103.03
2010	Charlotte Bobcats	\$4	\$265	\$326	\$61.38
2010	Golden State Warriors	\$15	\$428	\$489	\$61.08
2011	Detroit Pistons	\$32	\$678	\$422	\$255.95
2011	Philadelphia 76ers	\$4	\$265	\$316	\$51.48
2012	Sacramento Kings	\$6	\$294	\$345	\$50.58
2014	Milwaukee Bucks	\$11	\$369	\$551	\$181.88
2014	LA Clippers	\$20	\$502	\$2,002	\$1,499.68
2015	Atlanta Hawks	\$20	\$502	\$850	\$347.68
				<b>Average</b>	<b>\$88.29</b>
				<b>High</b>	<b>\$1,499.68</b>

Unlike the revenue model and Forbes, which did a poor job anticipating market purchase prices, the income model provides a more accurate view of potential purchase prices. While the revenue model consistently over-predicted recent transactions by 103 million, and Forbes valuations under predicted by \$153, the income model predicts 21<sup>st</sup> century transaction prices within \$88 million and has an even mix of under/over predictions. The only data point where the model does a particularly bad job is the sale of the Los Angeles Clippers in 2014. However, this sale came under extreme scrutiny of the previous ownership group, and was a highly followed sale by the media and can be looked at as a relative outlier. Overall, the income model is a reasonable gauge for future NBA transaction prices and provides a more accurate prediction than revenue figures and Forbes.

### Discussion

When beginning the thesis, there seemed to be a large discrepancy between data used by Forbes and metrics used by NBA franchise market participants. There is much debate among researchers on the subject because there is very little public information available due to a variety of factors including the privacy of NBA team financials as well as lack of full earnings disclosure from owners. However, with the information available, it appears that NBA owners are willing to pay a higher multiple for past revenues, equal to approximately 2.7x more of previous revenue. Additionally, my research found that income was more accurate predictor of transaction prices than revenue, contradicting previous research. While it is not surprising that market participants are paying more than Forbes says they should, I do not attribute all of the discrepancy to an ego effect as previous researchers such as Vine (2004) have. Rather, I decided to explore other potential points of difference.

One idea was considering each metric in context. Forbes' valuation is published at a moment in time. Forbes does not make projections on future consumer demand, television contracts, or free agencies decisions. Rather, Forbes takes into account the past years revenue, puts this information in context of how the team and home market have recently performed, and publishes a ball-park value for casual fans to tout their teams financial merit. Forbes' valuation is therefore a metric that pulls on backward looking information.

As Domadaran (2011) notes, the price of financial assets is the present value of future cash flows. Assuming that market members view NBA franchises as a financial transaction, it is not surprising that the premiums NBA owners pay are steeper than Forbes' published valuations. NBA owners do not care much about previous year's revenue. Rather, many owners come from the mindset of Herb Kohl, the current owner of the Milwaukee Bucks. According to Forbes, Kohl and his investment group paid \$200 million too much for the team. This \$200 Million premium Kohl paid would equate to two times previous revenue, a steep overinvestment from the Hedge Fund manager. However, it is unwise to judge Kohl's purchase on backward looking terms. The hedge fund titan paid a price for the future growth of the Milwaukee Bucks franchise. Because Kohl bought the NBA franchise with the expectation of growth and a long-term turnaround story, the premium Kohl paid could be justified.

Another point to consider is the fundamental difference between NBA and Forbes valuations. Forbes is an economic magazine which publishes content for the enjoyment and usability of their audience. Therefore, while the publishers in Forbes use their best guess to come up with valuations, they have no little to any actual financial incentive in the accuracy of their published price. Further, Forbes has a relative monopoly on the published valuations market- no

other major publication produces valuations for NBA franchises. Therefore, Forbes does not have to fully prove their valuations, and publish them using a similar model year after year.

On the other hand, NBA franchise buyers and sellers have enormous competition. When a team wants to sell their ownership stake, the NBA conducts a roadshow, taking bids from a multitude of interested parties. From there, the league cuts down potential candidates and lets the seller decide. The NBA market structure makes it so that no unexpected hostile takeovers occur, as this could send the wrong message to other owners in the league. While the market structure of the NBA makes sense for the league itself, as it serves to protect the league owners, the purchasing price for many teams is often inflated. During the NBA auctions, owners must submit their bid at the beginning of the process. If a particular owner really wants the team for financial or personal reasons, the purchaser will send in a relatively robust bid, to further their chances to acquire the team. Further, NBA teams do not sell very often, only 5 teams in the past 10 years have been put on the market. The league has a fixed number of teams, a finite resource, that change ownership every 15 years on average. Therefore, the supply in the NBA team market is inherently low, while demand for the teams is artificially high due to NBA market structure.

Low supply and high demand is a recipe for relatively high prices. Because NBA market participants are forced to deal with the factors of artificially low supply and pent-up market demand, it is no wonder that actual transaction prices are higher than published “fair value” valuations by Forbes. Forbes gets to publish valuations in a vacuum, unencumbered by market forces, while market participants have to set a market price for these finite resources through factors of supply and demand. The structural difference between how Forbes and market participants come to a price is a reasonable justification for their relative difference.

In terms of the income model, my results differed from previous research which said that operating income was a biased figure. While it is true that operating income can be distorted by clever accounting techniques such as accelerated depreciation, cost ramps, and delayed revenue recognition, the data shows that the line item is a more accurate predictor of transaction prices than revenue. Further, the income model had some predictive characteristics. For teams that lost money the year prior, the model often over predicted the team's value- i.e. the team's fair value was higher than the transaction price. On the other hand, if income was high the year prior, the model tended to under predict the team's value- i.e. the teams fair value was lower than the transaction price. These findings show that existing team owners are willing to rid their team for a fire-sale price if earnings are previously poor, while owners of profitable operations are only willing to sell their team for a steep premium.

### Implications

These findings are relevant for the researchers at Forbes. Forbes is one of the only companies that publish valuations for sports franchises on a regular basis. However, their valuation model has done a poor job predicting market values in the 21<sup>st</sup> century for a variety of reasons. The focus of this research was on how Forbes and market participants use different multiples of previous revenue generation. Forbes could use this research to adjust their current model and use higher revenue for prior year research in order to more accurately predict market prices. Market participants are willing to pay more than Forbes deems as fair value. However, because these teams do not trade on a public exchange, the true fair value of a team is its market price at selling. Forbes has the difficult job of marking to market these illiquid assets each year. In order to get a more accurate gauge when publishing NBA team valuations, Forbes could use this research to adjust their revenue multiple and more accurately mark these assets to market.

On the other hand, market participants could also use this research to further refine their purchase price. Potential buyers of NBA teams could use the revenue model to see how their purchase price compares to the historic revenue multiple of 8.3x prior year earnings. The potential buyers could then look at the relative difference of what they are paying and what the historical model says is a fair price. This process could provide a sanity check for potential investors, and have them rationalize their purchase price based on external factors such as the potential ego effect. Having a baseline multiple in mind, buyers and sellers would each have more relevant market information.

Further, the income model could help potential existing owners and potential market participants realize their cognitive biases and make a more informed decision. Unlike some financial assets and private equity projects, NBA owners often do not purchase a team for a turnaround project. However, the Forbes income model shows that potential buyers should look at purchasing teams with poor operations or income streams in previous years, as these teams often trade at a discount to their “fair” value. On the other hand, potential owners should be weary of purchasing teams with strong operations and strong income, as these teams often sell at a steep premium. Current owners of team’s with a history of strong operations and income could use this model to realize the discount between “fair” income value, and the markets’ willing price. The NBA team market has a veil of information uncertainty, and any type of baseline knowledge, such as historic multiples, could make the market more efficient. A more efficient market could lower transaction costs, and facilitate an easier process for teams to be bought and sold.

## Conclusion

Despite conflict among scholars, this research has shown that revenue corresponds to both market and Forbes valuations. Forbes uses a lower multiple for prior year revenue than recent market participants, which accounts for Forbes under predicting transaction values in 18 out of 21 team sales. While the models show the magnitude of difference between Forbes' and the market's view of what a team is worth, this study does not identify why the market pays a relative premium.

Contrary to previous research, this paper also showed that income has an effect not only on Forbes valuations, but also on real market deals. Even though operating income is often distorted, for a variety of reasons, this metric held up as a more accurate predictor of market values than revenue. Owners are willing to pay 11.85x earnings, which in a financial context, corresponds to a P/E ratio. A P/E ratio of 11.85 corresponds to a utility or low growth company in public markets, meaning that NBA owners value their teams more as cash cows than stellar growth vehicles. While the income model pointed out that buyers often get a bargain for teams with previously low operating income and poor deal for teams with strong operating income, the paper did not explain why this is true. Further research could look into certain factors that affect this phenomenon, whether it is through the lens of cognitive biases or market structure, any insight would add to the body of knowledge in a positive way.

Other avenues for future study could be exploring why market participants are willing to pay a full turn of revenue higher than Forbes thinks they should. This research speculates it could be due to the structure of the NBA market but does not expand on this claim with quantitative evidence. Further research could be done to explore why the market pays a premium to Forbes,

and use quantitative evidence to show how the NBA market structure or an ego effect presented by Vine (2004) affects relative valuations. Other research could look at factors beyond revenue and operating profit's effect on valuation, providing concrete evidence for other quantitative or qualitative variables. This research provided a revenue and income model for Forbes and the market's valuations. However, further research could help refine the Forbes model and bridge the information gap between academic research and real market participants.

## References

- Alexander, D., & Kern, W. (2004). The Economic Determinants Of Professional Sports Franchise Values. *Journal of Sports Economics*, 5(1), 51-66.
- Berri, D., Schmidt, M., & Brook, S. (2004). Stars At The Gate: The Impact Of Star Power On NBA Gate Revenues. *Journal of Sports Economics*, 5(1), 33-50.
- Bradenhausen, Kurt, and Lesley Kump. "Coupon Clippers." *Forbes*. Forbes Magazine, 17 Feb. 2003. Web. 23 Nov. 2015.
- Burton, B., & Jacobsen, J. (2001). The Rate of Return on Investment in Wine. *Economic Inquiry*, 39(3), 337-350.
- DeMocker, M. (2010, December 1). NBA makes it official: League buys New Orleans Hornets. Retrieved November 23, 2015, from [http://www.nola.com/hornets/index.ssf/2010/12/nba\\_makes\\_its\\_official\\_league.html](http://www.nola.com/hornets/index.ssf/2010/12/nba_makes_its_official_league.html)
- Domadaran, J. (2011). . Retrieved November 23, 2015, from [http://people.stern.nyu.edu/adamodar/New\\_Home\\_Page/littlebook.htm](http://people.stern.nyu.edu/adamodar/New_Home_Page/littlebook.htm)
- Geckil, I., Mahon, T., & Anderson, P. (2007). Sports Franchise Valuation: The Chicago Cubs (AEG Working Paper 2007-03). Retrived from Anderson Economic Group Website: <http://www.andersoneconomicgroup.com/Portals/0/upload/Doc2074.pdf>
- Goetzmann, W. N. (1993). Accounting for taste: Art and the financial markets over three centuries. *American Economic Review*, 83(5), 1370-1376.
- Hubman, Joshua, "A Financial Analysis of Publicly Traded Professional Sports Teams" (2011). *Senior Honors Theses*. Paper 69.
- Humphreys, B., & Mondello, M. (2008). Determinants of Franchise Values in North American Professional Sports Leagues: Evidence from a Hedonic Price Model.. *International Journal of Sports Finance*, 3(2), 98-105.
- Jasina, J., & Rotthoff, K. (n.d.). THE IMPACT OF A PROFESSIONAL SPORTS FRANCHISE. *International Journal of Sport Finance*, 3(4), 36-49.
- MacFayden, K. (2010). An Unlevel Playing Field. *The Dealmaker's Journal*. Retrieved November 23, 2015.
- Miller, P. (2009). Facility Age and Ownership in Major American Team Sports Leagues: The Effect on Team Franchise Values. . *International Journal of Sports Finance*, 4(3), 176-191.
- Milwaukee Bucks President and Owner Herb Kohl Introduces New Team Ownership and Announces \$100 Million Gift for Arena. (2014). Retrieved November 23, 2015, from <http://www.nba.com/bucks/milwaukee-bucks-president-and-owner-herb-kohl-introduces-new-team-ownership-and-announces-100-millio>

- Ochoa, L. (2013, February 1). How Wall Street Buys Sports Teams. Retrieved November 23, 2015, from <http://www.businessinsider.com/how-wall-street-buys-sports-teams-2013-2>
- Scelles, N., Helleu, B., Durand, C., & Bonnal, L. (2014). Professional Sports Firm Values: Bringing New Determinants to the Foreground? A Study of European Soccer, 2005-2013. *Journal of Sports Economics*. doi:10.1177/1527002514538976
- Scelles, N., Helleu, B., Durand, C., & Bonnal, L. (n.d.). Determinants of Professional Sports Firm Values in the United States and Europe: A Comparison Between Sports over the Period 2004-2011. *International Sports Journal of Finance*, 8(4), 280-304.
- Scully, G. (1995). *The market structure of sports*. Chicago: University of Chicago Press.
- Vogel, C. (1999). Valuation of a Sports Franchise. Retrieved November 23, 2015, from <http://users.wfu.edu/palmitar/Law&Valuation/Papers/1999/Vogel-Sports-Franchise.htm#Text>
- Vine, D. (2004). The value of sports franchises. Wharton Business School. Unpublished paper.
- Witz, B. (2014, August 12). N.B.A. Approves Ballmer's Purchase of Clippers. Retrieved November 23, 2015, from [http://www.nytimes.com/2014/08/13/sports/basketball/sale-of-clippers-to-steve-ballmer-is-finalized.html?\\_r=1](http://www.nytimes.com/2014/08/13/sports/basketball/sale-of-clippers-to-steve-ballmer-is-finalized.html?_r=1)