

The Market for Free Agents in Baseball: A Bargaining Theory Analysis

By

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“The one constant through all the years, Ray, has been baseball. America has rolled by like an army of steamrollers. It’s been erased like a blackboard, rebuilt, and erased again. But baseball has marked the time. This field, this game, is a part of our past, Ray. It reminds us of all that once was good, and that could be again.”

-Terence Mann, Field of Dreams

I. Introduction

Baseball, the national pastime. It has always been a sport known for its marquee stars, such as Babe Ruth, Ted Williams, Willie Mays, and Barry Bonds. In recent years, the salaries of star players have grown to seemingly astronomical heights. In December of 2000, Alex Rodriguez, arguably the best player in the league, became the quarter-billion dollar athlete signing a ten-year contract with the Texas Rangers that pays him an average of twenty-five million dollars a season. While the upwardly spiraling trend appears to have slowed in the past two off-seasons, free agents are still getting incredibly large paychecks. Could it possibly be that these players are worth all the money?

Economic theory on wage setting can help us answer this question. The simple model of the market for labor treats all workers as if they are identical, so that any worker’s hours are indistinguishable from a substitute worker’s hours. In this model, wages are set by the intersection of the aggregate labor demand curve and the aggregate labor supply curve. Accordingly, the wage setting process is simple because workers are identical. However, much like the labor markets for scientists, managers, and college professors, professional athletes are not all identical, and thus cannot accurately be modeled in this fashion. With neither party acting as a price-taker, an assumption required to apply the basic model used in introductory micro-economics classes, a

bargaining process between worker and employer (in this case player and team) sets the wage rate.

Many different models are potentially applicable for this bargaining process. The Nash Bargaining Solution and the Rubinstein Model are the two most commonly used for this sort of scenario. One alternative to these is the Theory of Tournaments, which posits that executives are paid salaries higher than their marginal product of labor, so as to entice lower level employees to work harder with the goal of earning one of the few executive positions. Ideally, one would select the model that provided the best fit for the observed data. In order to properly test them we would need data about the worker's performance and characteristics on the job. We would also need the outside options available to both the worker and employer in order to fairly gauge when either party would walk away from the bargaining table. Lastly, we would need to know how the employer would use the worker, what profits the employer earns, and how the worker affects those profits. The problem is that the data needed to test these models is rarely available.

However, baseball players, at least partially meet these requirements. Statistics like batting average and on base percentage are examples of data that very easily measure an individual's performance (almost independently from his teammates' skill level). Also, with the system of free agency currently in place in Major League Baseball, players are able to negotiate their wage in a monopsony-like setting. Using a bargaining model like this would allow us to test if players are worth their salaries, or if player's agents are fooling owners. It would also provide free agents and owners a starting point from which to negotiate contracts.

II. Institution of Baseball

Throughout most of the history of professional baseball, a reserve clause was in place. This clause tied players to the team that originally signed them or to whatever team they had been traded or sold by giving the owner absolute discretion in renewing player contracts. Players were forced into a series of one-year contracts that only needed to be greater than 75% of his previous annual salary. If a player was unhappy with his contract, his only alternative was to retire.

This system was allowed because it had the support of the Supreme Court. In the 1922 *Federal Club v National League* case, the Court sided in favor of the National League (which became part of the Major Leagues) citing that the league was in the business of “giving exhibitions of baseball”, and thus it was not interstate commerce even though the exhibitions are between clubs from different cities and states. Since the Sherman Anti-Trust Act only covers interstate commerce, the National League could not be in violation of it. This created the antitrust exemption that Major League Baseball needed to keep the reserve clause system, which was not out of place for the period. Other professional sports all had systems like this; further, movie studios had a similar system with regard to actors and actresses.

In the 1953 case, *Toolson v. New York Yankees*, Toolson, a minor league player wanted to leave the Yankees and play for another team but the Yankees refused to trade or release him. Sighting the precedent set forth in *Federal Club v. National League*, the Court sided with the Yankees.

However, this was not the case for other professional sports. In 1957, William Radovich sued the National Football League (NFL) for violating federal antitrust laws by

preventing him from signing with a minor league team. In an attempt to move closer to home, Radovich signed with a minor league team in California. The NFL tried to prevent the signing by saying they would no longer do business with the minor league team. In *Radovich v. National Football League*, the NFL claimed that they were in the business of putting on exhibitions of football, just as baseball was in the business of putting on exhibitions of baseball. The Court ruled in favor of Radovich saying that football and baseball were different sports, so that the precedents set for baseball should not be considered for football.

Similar to the NFL in the Radovich case, the National Basketball Association (NBA) tried to use the precedent set in *Toolson v. New York* to defend its actions in the 1971 case *Haywood v. NBA*. Spencer Haywood, a center with the Seattle SuperSonics, sued the NBA because it tried to prevent him from playing since he was not four years removed from graduating high school, a league requirement at the time. Yet again the Court differentiated baseball from other sports and ruled that the precedent did not apply. This decision opened the door for players like Kevin Garnett and LeBron James to enter the NBA immediately after graduating high school.

This reserve system would eventually fall in the season of 1975. Following the *Flood v. Kuhn* case in 1972, in which the Court once again ruled in favor of Major League Baseball, two players, Andy Messersmith and Dave McNally, played the 1975 season without signing contracts. At the end of the season, both players declared that they were free agents because they had played a season without a contract and were no longer held to the reserve clause. The owners obviously disagreed with them on this and the case was sent to Peter Seitz, an outside arbitrator. Seitz voted in favor of the players

and the courts later supported his decision. With this ruling came the end of the reserve clause and the beginning of free agency in Major League Baseball. As the system stands today, a player is bound to a team for his first six years (unless he is released by that team), but after six years, when a player's contract runs out, he is eligible for free agency where he can negotiate and sign a contract with whatever team he desires.

III. Modeling and Review of Literature

Many economists have looked at baseball to determine how changes in the setup of a market will alter the wages of workers. The first detailed examination of this labor market was Rottenberg's [1956] "The Baseball Player's Labor Market." While this paper looked at the structure of the league and how that structure affected player salaries, it fails to be of great use for two reasons. The first is that free agency, expansion, and television have greatly changed the league. The second reason is that Rottenberg made no attempt to estimate what a player was actually worth. Despite these shortcomings, it is significant because it was the first work that tried to analyze player salaries in baseball.

Scully [1974] was the next to tackle baseball, and the first to try to estimate a player's value. In his paper, "Pay and Performance in Major League Baseball," he proposed a three-step process to determine the marginal revenue product of a player. This process involved two equations. The first estimated the team's winning percentage based on playing statistics (team slugging average (TSA) and team strikeout-to-walk ratio (TSW)), pennant contention (CONT or OUT), and a National League dummy (NL).

$$PCTWIN_t = \alpha_1 + \beta_{11} * TSA_t + \beta_{12} * TSW_t + \beta_{13} * NL + \beta_{14} * CONT_t + \beta_{15} * OUT_t \quad (1)$$

The second equation estimated the team's total revenue based on winning percentage, area population (SMSA), differences in the intensity of fan interest

(MARGA), a National League dummy (NL), condition of the stadium (STD), and a percentage of black players on the team (BBPCT). Scully [1974] included the percentage of black players on the team in the revenue equation because of possible racism by fans.

$$\text{Revenue}_t = \alpha_2 + \beta_{21} * \text{PCTWIN}_t + \beta_{22} * \text{SMSA}_t + \beta_{23} * \text{MARGA} + \beta_{24} * \text{NL} + \beta_{25} * \text{STD}_t + \beta_{26} * \text{BBPCT}_t \quad (2)$$

The final step in this process involved using individual player performance statistics to calculate each player's contribution to the team's performance and to gauge each player's contribution to team revenue.

After the Seitz decision, economists examined many of the different ways that free agency affected the baseball labor market. Hunt and Lewis [1976] looked at the effects of eliminating the reserve clause on team dominance. They found that over the long run, levels of team dominance would not be changed by the change in league structure.

Meanwhile, Cassing and Douglas [1980] updated Scully's [1974] model and adjusted for the large inflation between 1969 and 1976 by using the Consumer Price Index (CPI) and Scully's original data for team revenue to see if free agency was appropriately allocating players. The problem with such a setup is that if team revenues rose faster than the CPI during this period, then the marginal revenue product of players would be understated. It should be noted that between 1969 and 1976, attendance jumped an incredible 97%, while the CPI only increased 76%. Another problem with their work is that they used a player's lifetime statistics to judge if the player's salary was appropriate for a given year. Using lifetime statistics may greatly overstate the value of older players whose careers are in decline. Given that a player must have at least six years of experience before he can become a free agent, odds are that more free agents'

careers are on the decline than on the rise. This becomes clear when one considers the average length of a professional baseball career. Most players do not even make it through the minor leagues and into the majors. For those who do, the average career length according to the Major League Player's Association is under five years. Consider that there are a myriad of players like Pat Ahearn and Cory Aldridge whom play for only one or two seasons in the majors, while there are far fewer players like Tony Gwynn and Cal Ripken, Jr. whom have careers that last 20 years or longer. Therefore, many players do not ever reach free agency. Despite these issues, they found that the market effectively matches free agents with teams where their value was the greatest and not simply to big market teams.

Sommers and Quinton [1982] also updated Scully's [1974] model, only their changes were to his first equation, which calculated how a team's on field performance affected winning percentage. The major change they put forth was swapping team slugging average (TSA) and team strikeout-to-walk ratio (TSW) for numbers that compared team averages in those two statistics to league averages. Using this updated model, they found that the first group of free agents received salaries commensurate with their value added to teams.

In a truly prophetic piece of work, Chelius and Dworkin [1982] built their own model to generate valuations for free agents. By first breaking down all of the available measures of performance into three factors (production, power, and seniority), they were able to use a regression analysis consisting of those three factors to estimate the marginal product of players. Based on their results, Chelius and Dworkin predicted that free agency would increase the salaries of both individual free agent's and the real average

salaries of all players. Although, they did not predict that the real average salaries of all players would ever exceed two million dollars per year, which it recently did.

Zimbalist [1992] modified Scully's updated model (he made minor changes in 1989 in an attempt to account for league expansion, managerial quality, and team profitability) by changing the measures of a team's on field performance. He replaced slugging average and strikeout-to-walk ratio with production and earned run average in the first equation and added per capita income, lagged winning percentage, and trend variables in the second. Using this model, he found that players were receiving salaries that were much higher than their marginal products. This fact merely underscored the difficulty in accurately determining the value of the marginal product of a baseball player.

Harder [1991] studied how pay inequities affected a player's performance. Interestingly, he found that overpaid players performed proportionally better in the following season. There are two important things to note about this finding though. The first is that while other economists define overpayment compared to performance, Harder defined it in a relative sense, producing a system where roughly half the players in the league are overpaid, with the other half being underpaid. Another reason this study is problematic is that in Major League Baseball, payment is based on expected performance. Thus, if a free agent is expected to perform better than his previous statistics, his real salary will show that. However, since his past performance was not as good as his current performance, the predicted salary from Harder's model will be lower, and thus the player will be classified as being overpaid.

As just explained, Harder's [1991] system differed from the traditional economic definition of overpayment, which is any wage over the going rate. Henry Ford and his early motor plants provide great anecdotal evidence that paying over the "going rate" will entice employees to work harder so as to avoid being fired for shirking. This is known as paying an efficiency wage because the higher levels of pay lead to more efficient workers, which, in turn, raises the overall level of productivity of the firm (which outweighs the increase in pay).

Muhlau and Lindenberg [2003] used the relational signaling model from sociology to test how efficiency wages improved productivity. This model is "based on the idea that behavior is governed by an overriding goal that 'frames' cognitive processes and pushes other goals into the background," (Muhlau 2003). They found that a firm's wage level has a strong positive correlation with worker commitment.

Kahn [1993] tested for the effects of free agency on compensation and contract duration in Major League Baseball. His model for calculating player's marginal product split players into two categories, pitchers and non-pitchers. While previous attempts at calculating marginal product included statistics for both varieties of players, by splitting the two groupings, Kahn could test for effects that only affected one sort of player and not the other. In his model for non-pitchers, Kahn used batting average, extra bases attained through extra base hits, walks, stolen bases per game, number of all-star game appearances, and percentage of seasons a player won the Gold Glove award. In his model for pitchers, Kahn used winning percentage, career earned run average, percentage of appearances that were starts, and percentage of appearances that resulted in a save.

Interestingly, Kahn [1993] used career statistics when valuing players. He found that the existence of free agency for players increases both contract duration and total compensation. Further, free agents (especially white pitchers) appeared to use the increased bargaining power that comes with free agency in order to “buy” longer, guaranteed contracts, rather than maximizing their per unit payments. This finding can be explained in three ways. The first is that players are afraid of suffering career-ending injuries and thus would prefer the longer, guaranteed contracts as insurance against such injuries. The second is that owners want to avoid bidding wars. Then, by signing a player to a longer contract, the player will not be a free agent for a longer period of time, and the team will not have to engage in a bidding war for a longer period of time. Lastly, since free agents have a decent amount of experience (at least six years), teams are more comfortable predicting their level of performance in the years to come, and thus are more comfortable signing players to long term contracts.

Blecherman [1994] looked for different forms of judgment bias in the free agent market that affect player salaries. He looked at two particular types of biases, availability bias and the winner’s curse. In his paper, he assumed that a free agent’s salary should be “proportional to expected performance, and no greater than expected marginal product,” (Blecherman 1994). Since the free agent process is similar to a common value auction, it can fall prey to the winner’s curse, which says that the winner of the auction will pay more than the player’s marginal product in an attempt to obtain the player’s services. Another possible way that these auctions can fall prey to odd results is the availability bias, which would lead to player’s salaries being influenced by memories of the player that are most easily recalled. Blecherman looked at “best performances as a measure of

saliency, and latest performances as a measure of recency,” (Blecherman 1994). One may think a “lemons” problem similar to the one faced by someone purchasing a used car could provide another source of bias in the market. However, the nature of this particular market, with in-depth scouting of all players and contracts being dependant on a player passing a physical, makes the “lemons” problem insignificant.

He built his own model in order to calculate player’s marginal product. In place of the previously used measures of offensive productivity, Blecherman [1994] used Bill James’ [2002] runs created to measure offensive productivity. Runs created is one of baseball’s “new” statistics, the formula for which is:

$$RC=(H+BB-CS)*(TB+0.55*SB)/(AB+BB) \quad (3)$$

Where H is the number of hits, BB are walks, CS are times caught stealing, TB is total bases on hits, SB are stolen bases, and AB are official at-bats. In testing for the best way to predict future performance, Blecherman found that a player’s past three year’s performances serve as the best predictor of future performance.

Another interesting conclusion that comes out of his work is that “an incremental victory (and thus a free agent) is worth more to a small city team than it is to a big city team,” (Blecherman 1994). Blecherman [1994] reconciled his findings by hypothesizing that small city teams are more likely to have more empty seats at games than big city teams, and thus, have greater potential for increases in revenue that come along with increases in winning percentage.

He found that of the thirty-two free agents in his sample, twenty were overpaid by at least one standard error and thirteen were overpaid by two standard errors. This shows that there is a winner’s curse in this market. Meanwhile, there is no statistically

significant evidence of an availability bias. Though, Blecherman [1994] quickly noted that maybe it is a mixture of these two biases, and not just the winner's curse, which is leading to player's being overpaid. If an owner remembers a player's performance from five years ago because it was his best season and uses that memory to determine the player's marginal product, then the owner would be falling prey to availability bias. However, if the owner signs this player to a contract worth more than the player's marginal product (because of this incorrect valuation), it would show up as an example of the winner's curse. Interestingly, the data showed that as owners have been caught by the winner's curse, they did not learn to lower their bids; they instead learned not to bid at all. In the late 1980s, the owners even colluded to not bid on other team's players (thus basically recreating the reserve clause) so as to limit the number of bidders and keep player salaries down.

In the mid-1990s the fact that player salaries were spiraling ever higher led Vrooman [1995] to look at how free agency was affecting competitive balance. While Hunt and Lewis [1976] found that in the early days of free agency the elimination of the reserve clause had no effect on team dominance, much of the economic landscape had changed by 1995 and a reanalysis of the situation was necessary. At the start of the paper, Vrooman developed a general theory of how a league's competitive balance should be altered by revenue imbalances, which was derived from an idealized league consisting of one small market team and one large market team. This theory predicted that: if the revenue elasticities of winning are equal for the two teams, then competitive balance will decrease; a small market team can still be competitive if its fans have a higher elasticity of demand for winning than fans in the large market; competition

becomes more balanced as the cost elasticity of winning increases; and competition between two teams becomes more balanced as diseconomies of market size increase and compensate for revenue advantages derived from market size. Later in the paper, when he looked for real world examples to flesh out this theory, he turned to the NBA, the NFL, and Major League Baseball.

Vrooman [1995] extended this general theory to look at how revenue sharing between teams would affect parity. While it would seem that large market teams giving money to small market teams would level the playing field, this may not be the case. It could be in the best interest of the league to have the teams in the largest markets be dominant because they could make the most money for the league (and thus smaller market teams) both at the gate and in terms of getting a large national broadcasting contract. According to his general theory, the sharing of revenues will drive down player costs, but will have no affect on competitive balance. Interestingly, the NFL, which has the most revenue sharing of the three leagues he examined, has the lowest player salaries, in accordance with the predictions of his general theory.

Another way that leagues have tried to increase parity is by instituting a salary cap. Vrooman [1995] also looked at this phenomenon, but he found that since a cap allows the teams of the league to collusively act as one firm, it allows for greater competitive imbalance. This is the case because under a cap all teams share equally the player costs, regardless of winning. Consequently, the marginal costs of winning for each team zero. This implies that individual team revenues are maximized at the league revenue maximum, which could lead to results similar to those of a league that has revenue sharing.

Despite the large revenue imbalances present in Major League Baseball, there has not been a growth in competitive imbalance; rather the parity in the American and National leagues has increased. Vrooman pointed to the existence of free agency and lack of a salary cap as allowing for teams to retain their own individuality and not have a greater incentive to let large market teams win in order to raise the overall profitability of the league.

The work of Cobb [1993] has served as the main inspiration for this paper. His “The Major League Baseball Free Agent Market as an Example of a Nash Bargaining Equilibrium” not only added a useful wrinkle to the models for how to value a player, but, unlike the other papers, had its primary focus on player salaries. He started his model using the linear regression from Zimbalist [1992] that used the ratio of team production (on base percentage plus slugging average) to league average production, ratio of team earned run average to league average, and dummy variables for being in or out of contention for the playoffs. However, since there is some question of whether the relationship between these statistics and winning percentage is linear (as winning percentage can only be between zero and one), Cobb performed a Box-Cox transformation¹ of his model in order to make a maximum likelihood estimation. Cobb further changed Zimbalist’s model by replacing the contention dummy variables that were calculated by a team’s end of season record for possibly in contention dummy variables (named “maybe” and “doubt”) that were based on a team’s being in contention on August 1. The final variable added by Cobb was “star”, which attempted to take into account the fact that fans want to see some players simply because of who they are.

¹ A Box-Cox transformation is used to normalize a data set. It is defined as $T(Y)=(Y^\lambda-1)/\lambda$ where Y is the response variable and λ is the transformation parameter. For $\lambda=0$, the natural log of the data is taken instead of using the previously stated formula.

Since deciding which players are “stars” could be fairly arbitrary, Cobb used a player’s appearance in the All-Star game as the sign of a star. Since Major League Baseball mandates that every team have at least one representative at the All-Star game, it is unclear if this is the best way to define who is a star player. However, since revenue can easily be altered (via changes in attendance) by the presence of a star on a team, this variable served as a good addition to the model.

After calculating players’ marginal product, Cobb [1993] questioned how players and owners split this added revenue? He looked at both Nash’s and Rubinstein’s bargaining models (but primarily focused on Nash’s model) to answer this question. To use Nash’s model, Cobb was forced to assume that in the situation of a failed negotiation, the free agent would receive his salary from the previous year and the team would get nothing. With this assumption, he found that a free agent’s new annual salary would be equal to the average of his previous salary and his estimated value of marginal product. Cobb noted that this conclusion may not be exactly correct as calculating the team’s utility in agreement and the player’s utility in disagreement was very problematic. Further, the bargaining model he used has only two participants, while it is probable that a free agent would negotiate with more than one team. Despite these potential problems, the final salary estimates were very close to the actual free agent salaries.

Marx and Shaffer [2002] built a more advanced bargaining model that contained more than one seller, a shortcoming in Cobb’s [1993] model. While this model was not designed specifically for professional sports, it is useful in understanding situations where a free agent is negotiating with more than one team or when a team is negotiating with two free agents for one position on the team. The two authors even discuss some

professional sports applications within their paper. Marx and Shaffer considered guaranteed contracts between two parties, like those in professional baseball. They looked at the incentive to perform in the years just before their free agency. Suppose a baseball team already has a shortstop under contract, but knows that a better shortstop will soon be available via free agency. The team might try to “free up” money by trading players away or doing some other sort of salary dumping so that the team could afford to add the new, free agent shortstop while eating the rest of the old shortstop’s guaranteed contract. If the future free agent has too good of a season, the franchise may not try to adjust to create room for the new shortstop if it feels that the shortstop will be too expensive to sign. Therefore, while having a good season decreases the number of teams with which the future free agent can negotiate, it also enables him to ask for a higher salary from the few teams left in the negotiations.

Marx and Shaffer [2002] employed a model that had three parties: two sellers and one buyer. The three parties engaged in three stages of negotiation. In stage 1, the buyer and the first seller negotiate a contract. In stage 2, the buyer and the second seller negotiate a contract. Finally, in stage 3, the buyer declares his quantity choice. One thing that came from setting up the negotiations in this way was that the economic rent was not fixed. Thus, a player was not necessarily better off having more bargaining power. However, had economic rent been fixed, every player would always prefer having more bargaining power. Even though neither seller bargains directly with one another, each seller’s bargaining power affects the expected payoff of the other seller. The first seller would like the second seller to have more bargaining power, while the second seller would like the first seller to have less bargaining power. In fact, they found

that the second seller's payoff decreases as his bargaining power increases. In situations where there is competition between sellers for whom gets to negotiate first, the buyer prefers that the efficient seller have less bargaining power while the inefficient seller have more bargaining power.

At the same time, White [2000] looked at the effects of uncertainty on the bargaining process. More specifically, she considered negotiations in which each player's payoff from an agreement is risky. This is an especially pertinent topic in negotiations for free agents who have had injury-plagued careers; however, a team can never be sure that a player will stay healthy for the duration of a contract. At the same time, it is possible that a change of scenery or maturation will lead a player to outperform what was expected of him. Accordingly, the payoff a team receives from signing a free agent is exceedingly uncertain.

In a bargaining situation, if a person becomes more averse to risk they would do worse because risk aversion is a disadvantage in bargaining. White [2000] found that "a risk-averse bargainer will increase his bargaining power when the agreement is risky," (White 2000). This occurs because when income is risky, every extra dollar becomes more valuable, and so a bargainer is more willing to hold out for an additional dollar. White said that in this way, a bargainer becomes "more patient" and receives a larger portion of the payoff in equilibrium. Therefore, it is possible for a bargainer to become better off by adding risk to his payment.

Bougheas and Downward [2000] also looked at bargaining, only their sole focus was on professional sports leagues. One point that they made which is of note is that many economists have modeled professional sports leagues as competition between

different firms. However, this model is inaccurate. If teams were truly competing firms, then a team would only be concerned with its own success. Yet, teams in a league do not only care for their own success, but also for their league's success. The league's success is tied to more than the individual team's results. In many cases, a certain level of parity is best for a league. In response to this, Bougheas and Downward modeled teams as members of a cartel.

They concluded that the inflow of new talent would increase the level of competitive balance in a league. This resulted from the expected surplus that the new players are expected to generate; thus, the salaries they earned would be higher with teams that previously had less talented players. This implies that teams with low talent levels would be more likely to sign new talent. However, it is easy to think of recent examples from Major League baseball where teams that already had high talent levels signed these new, talented players. For instance, in the 2002-03 off-season, the New York Yankees (a team with arguably the highest talent level in the league) signed both Jose Contreras and Hideki Matsui, who many baseball pundits expected to be the two most talented new players to come to the league. In the 2000-01 off-season, the Seattle Mariners, coming off a 91 win season that took them to the playoffs, added Ichiro Suzuki to the team. In the 2001 season, Ichiro not only won the Rookie of the Year Award, but also the Most Valuable Player award. These examples are easily explained by the vast revenue differences present in Major League Baseball.

These various studies looked at a variety of aspects of the baseball labor market and the negotiations between free agents and owners (although in some cases the work was not focused on baseball, but rather bargaining in general). What this paper hopes to

do is update the work of Cobb [1993]. Since 1993, Major League Baseball has undergone many dramatic changes. In 1998, the league expanded to thirty teams with the additions of the Tampa Bay Devil Rays to the American League East and the Arizona Diamondbacks to the National League West. When these teams joined the league, the Detroit Tigers moved from the AL East to the AL Central, and the Milwaukee Brewers moved from the AL Central to the NL Central. With the success of the Orioles and the Indians following their respective openings of Camden Yards and Jacobs Field, many teams got new stadiums that increased their revenues. However, due to the strike in 1994, fan support dwindled in many cities, although it has seen a bit of a boost since the incredible 1998 season when Mark McGwire and Sammy Sosa each hit more than sixty homeruns and the New York Yankees won an (at the time) American League record 114 games.

Since the 1998 expansion, free agent salaries (and the average salary for all players) have risen incredibly. In the 1998-99 off-season, Kevin Brown signed the first 100 million dollar plus contract in Major League baseball history with the Los Angeles

Table 1: Free Agent Contracts with Total Values Greater than \$100 million

Player	Year Signed	Contract Length	Total Value
Kevin Brown	1998-99	7 years	\$105 million
Manny Ramirez	2000-01	8 years	\$160 million
Alex Rodriguez	2000-01	10 years	\$252 million
Mike Hampton	2000-01	8 years	\$121 million
Jason Giambi	2001-02	7 years	\$120 million

Dodgers. This contract was only the first of many huge contracts handed out. Is it possible that these players are actually worth every penny? To answer this question, we will use all of the free agents signed in the 1998-99, 1999-00, 2000-01, and 2001-02 off-seasons as our sample set.

As can be observed from the studies previously discussed in this paper, the first step in answering this question is building a model that can calculate the marginal revenue product of a player to a team. Almost all of the models used to calculate this have used two equations: the first that expressed winning percentage as a function of team performance (like equation (1)), and the second, which calculated team revenue as a function of many variables, one of which was winning percentage (like equation (2)). From these two, one can calculate how a change in winning percentage affects revenue and then how each individual player affected the performance statistics of the team. This will tell how much revenue each player generated. While many economists have argued over which performance statistics should be included in the first equation, advances in the field may completely nullify this issue, as will be discussed later.

Starting in the mid-1970s, Bill James [2002] began the movement that is now known as Sabermetrics. Driven by a desire to completely understand the game and to be able to compare players from different eras, James took the available statistics that have always been calculated and began meshing them together in different ways. One of his new “statistics” was runs created, which Blecherman [1994] used in his marginal product model. However, James did not stop there. While runs created did a good job comparing the offensive output of players, it did not explain how much of baseball was hitting as compared to pitching or fielding. Since the bottom line in baseball is winning games, he

sought to create one statistic that determined how many wins could be attributed to each player. The result of this work is the Win Shares system.

The Win Shares system takes into account everything a baseball fan could ever hope for: hitting, pitching, fielding, field position, and each player's home stadium. Combining numerous statistics (such as runs created, earned run average, and fielding assists), James [2002] is able to factor in all phases of the game and create one number. This final statistic, called win shares, states the number of wins times three each player generated. Three may seem like an odd number, but as James explains, "three to one is an interval that works," (James 2002). Further, "if we awarded ten win shares for each win, I would lose the confidence in the meaning of one or two win shares...If you awarded one win share for one team win, you have the opposite problem: real and fairly obvious differences between players are rounded out," (James 2002).

The actual calculations of win shares are not easy to explain:

"In concept, win shares are magnificently simple. Win shares for a team are three times wins. From there, win shares are assigned to individuals on the basis of runs created, quality innings pitched and fielding excellence. In its execution, the win shares system is almost incomprehensibly complicated," (James 2002).

In lieu of trying to condense these extensive calculations into a brief synopsis, Table 2 contains the short form method of calculating win shares. This method matches the actual method fairly well, with only a couple of predictable errors: hitters are over-rated in hitter's parks, poor defensive players are over-rated, and good defensive players are under-rated. These errors are minor though as only one or two players per team will be off by three win shares.

Using win shares, it is possible to eliminate the first equation in all of these

Table 2: The Short-Form Method for Calculating Win Shares²

1.) Figure the runs created for all of the players on a team.
2.) Figure the outs made by each hitter.
3.) Divide the outs by 12, and subtract that from the runs created.
4.) Divide by three. The result is each hitter's batting Win Shares (but not less than zero).
5.) For pitchers as hitters, do the same except don't subtract the outs.
6.) For pitchers as pitchers, multiply the league ERA by 1.50 and subtract 1.00.
7.) Figure how many earned runs the pitcher would have allowed had that been his ERA.
8.) Subtract his actual earned runs allowed.
9.) Add his saves.
10.) Divide by three. The result is his pitching win shares (again, not less than zero).
11.) For fielders, give the player one win share for every 24 games at catcher, one for every 76 games at first base, one for every 28 games at second base, every 38 games at third base, one for 25 games at shortstop, and one for every 48 games in the outfield.
12.) Figure the team total, and then adjust all totals upward or downward so that the team total matches three times the team's wins.
13.) Round them off into integers.

models entirely. Blecherman [1994] found that a player's statistics from the previous three seasons served as the best predictor of future performance. We will use the average number of win shares from the three seasons prior to a player's free agency in order to calculate the expected effect on winning percentage a player will have.

IV. Model

Whereas the previous attempts at calculating the marginal product for a player involved a two-equation model (like equations (1) and (2) used by Scully [1974]), all that our model needs is an equation that expresses revenues as a function of variables, one of which is winning percentage. In other words, our model needs only an equation like the following:

$$\text{Revenue}_t = \alpha + \beta_1 * \text{PCTWIN}_t + \beta_2 * X_{1t} + \dots + \beta_{(n+1)} * X_{nt} \quad (4)$$

This is because win shares are a numerical estimate of the number of wins a player

² Info in Table 2 is taken from James [2002].

Table 3: Variables Used in the Regression

Variable	Expected Sign	Why
Winning Percentage	+	As team does better, so more fans buy tickets, merchandise, etc.
Multiple Teams	-	The presence of another team in the same market splits the fans (and thus revenue) between the teams.
Median Household Income	+	If people have higher income they can afford to spend more on baseball.
Population	+	If there are more people in the city then there are more people who can buy tickets, merchandise, etc.
% Native Born	+	Baseball is the national pastime, so the presence of more people born in the country should increase fan interest and support.
NFL Team	-	The presence of an NFL team splits the money a person is willing to spend on professional sports between the two teams.
NBA/NHL	-	The presence of an NBA or NHL team splits the money a person is willing to spend on professional sports between the teams.
Indoor Stadium	+	By having an indoor or retractable roof stadium, fans do not have to worry about rainouts or bad weather when deciding if they want to go to a game.
Capacity	-	If a stadium is too spacious then there is less reason for a fan to go to a game because the viewing experience is less intimate.
Stadium Age	-	Fans want to attend games at new stadiums because they are cleaner, more comfortable, and are fans have not seen them before.
Team Age	+	Older teams have more history and have had a longer time to build a fan base.
Years Since Last Pennant	-	Fans like teams that win.
World Series Titles	+	Fans like teams that win.
Days of Precipitation	-	Fewer fans come to games that look like they might get rained out or delayed because of rain.

created, which is exactly what the first equation in other models provides.

In trying to estimate total revenue as a function of other variables, a log-log regression provided the best fit for the data. In Table 3 there is a list of the independent variables we used in our regression and the sign of the coefficients we expected. Table 4 has a couple of the regressions we tried in order to estimate total revenue. In Table 4, \ln Win % is the natural log of winning percentage, Multiple Teams is a dummy variable for cities that have more than one professional baseball team, each year is a dummy variable to account for yearly fixed effects, \ln HH is the natural log of median household income in each surrounding metropolitan area, \ln Pop is the natural log of the population of the surrounding metropolitan area, \ln % Native is the natural log of the percent of the population born in the country (for the teams in the United States this means people born in America and for the Canadian teams this means people born in the United States), NFL Team is a dummy variable for cities that have an NFL franchise, NBA/NHL is a dummy variable for cities that have either an NBA or NHL franchise, Indoor Stadium is a dummy variable to account for any effect having a dome stadium might have, \ln Capacity is the natural log of a team's home stadium's capacity, \ln Stad Age+1 is the natural log of the number of years plus one that a team has played in its home stadium, \ln Team Age+1 is the natural log of the years plus one that a team has been in existence, \ln YSP is the natural log of the number of years since a team has won the pennant, \ln WS Titles+1 is the natural log of the number of world series plus one a team has won, and \ln Precip is the natural log of the number of days of precipitation a metropolitan area has in a year. One was added to some of the variables because it is impossible to take the natural log of zero, so if the one had not been added then the cases where a zero existed would have

Table 4: Variations of the Model with In Total Revenue as the Dependent Variable

Term	Model 1	Model 2	Model 3	Model 4
Intercept	19.208554 (2.192598)	18.701615 (2.069204)	18.799275 (2.060818)	18.572235 (2.023063)
In Win %	0.6990145 (0.11647)	0.7146007 (0.114168)	0.7229585 (0.113352)	0.7275151 (0.11285)
Multiple Teams	0.0817251 (0.034987)	0.0785683 (0.034638)	0.0726111 (0.033549)	0.0752256 (0.033204)
1999	-0.033155 (0.024865)	-0.033187 (0.024818)	-0.032745 (0.024764)	-0.032818 (0.024707)
2000	-0.088257 (0.025138)	-0.088582 (0.025087)	-0.088137 (0.025033)	-0.087761 (0.024967)
2001	-0.158956 (0.025454)	-0.1595 (0.025394)	-0.158787 (0.025328)	-0.158186 (0.02525)
2002	-0.178442 (0.02539)	-0.179078 (0.025326)	-0.178542 (0.025268)	-0.178163 (0.025202)
In HH	-0.165904 (0.151072)	-0.15801 (0.150379)	-0.145917 (0.149139)	-0.149712 (0.148668)
In Pop	0.4374002 (0.05119)	0.4404815 (0.050909)	0.4339778 (0.04999)	0.4463218 (0.045713)
In % Native	1.2514674 (0.203395)	1.2260315 (0.199839)	1.2015872 (0.196501)	1.2059322 (0.195921)
NFL Team	0.109602 (0.045511)	0.103093 (0.044495)	0.0976168 (0.043743)	0.0959912 (0.043563)
NBA/NHL	-0.02393 (0.036206)	-0.014719 (0.033739)	-0.020238 (0.032776)	
Indoor Stadium	0.1417148 (0.032258)	0.1401461 (0.032122)	0.1376476 (0.03187)	0.1336957 (0.031149)
In Capacity	-0.368009 (0.138633)	-0.345361 (0.13466)	-0.358935 (0.133056)	-0.349459 (0.131863)
In Stad Age+1	-0.071351 (0.017243)	-0.071551 (0.017208)	-0.070333 (0.017091)	-0.073825 (0.016092)
In Team Age+1	-0.08273 (0.033865)	-0.087866 (0.033021)	-0.073917 (0.026529)	-0.073654 (0.026464)
In YSP	-0.076947 (0.021784)	-0.074544 (0.021479)	-0.082916 (0.01794)	-0.081344 (0.017717)
In WS Titles+1	0.0231951 (-0.030243)	0.0214138 (0.030082)		
In Precip	-0.034346 (-0.048372)			
RSquare	0.736902	0.73589	0.734876	0.734116
RSquare Adj	0.700751	0.701875	0.702981	0.704352
No. of Observations	150	150	150	150

*standard errors are in parenthesis

been eliminated from the data set when the regression was run.

Model 1 is the final regression used because, while it contains a couple of insignificant variables in it, these variables are worthwhile to keep in the model so as to avoid exacerbating omitted variable bias. Models 2, 3, and 4 are identical to Model 1, only with the least significant variables removed. Excluding these variables only has a minor impact on the adjusted R^2 , which means that there is no large improvement in any of the reduced regressions' ability to explain much more of the variance in the natural log of total revenue. Also, the coefficient for the natural log of winning percentage does not change much in the different regressions. This suggests that the presence of these insignificant variables does not greatly affect the relationship between total revenue and winning percentage.

Most of the coefficients in Model 1 are the signs we expected them to be in Table 3. The coefficient for multiple teams is positive, which is not as anticipated. We reconcile this with the knowledge that Major League Baseball limits the entry of new teams into markets that could absorb them. This means that the multiple team variable is a marker for a city whose demand for baseball is sufficiently great that it could support several teams, and the pressure caused by that demand dominates the resistance from the league. The markets, however, remain underserved so that markets with multiple teams actually have higher revenues. We understand the positive NFL coefficient similarly, in that the NFL variable is a marker for a city that has a high demand for professional athletics. These arguments are not countered by the negative coefficient that the NBA/NHL variable has, as it is insignificant. We can live with the team age coefficient

being negative because Major League Baseball would not allow the entry of a new team into a market that would not at least initially support it.

The final variable that has a coefficient different from what we expected is natural log of median household income. Intuitively, a team located in a city with a higher median household income would have higher total revenue, which is the reverse of what is implied by the estimated parameter. First, this coefficient is statistically insignificant. Second, there is a level of co-linearity between median household income and percent native born. We do not want to drop the percent native born from the regression because of its significance.

The next step in the analysis is calculating the marginal revenue each player is expected to generate after signing as a free agent. Blecherman [1994] found that a player's previous three seasons serve as the best predictor of their future performance, so we used the average win shares of the three seasons prior to a player becoming as the expected performance of that player. By dividing that average win share number by three, we had the expected number of wins each player would bring to a team.

The ideal way to calculate how each free agent's expected number of wins would change a team's winning percentage would be to compare each team's winning percentage just before and just after a player signs. This would allow us to look at the marginal revenue the free agent is expected to generate at the time of his signing. The first step in this process would be to take a team's roster from the end of the previous season and subtract the win shares of players who had since left the team (either via retirement, free agency, or trade). After that, create a new, mid-off-season roster that included all of the players a team added since the end of the previous season up to that

point (either through calling players up from the minors, free agency, or trade). Next, add the new free agent's expected win shares to the mid-off-season roster. Finally, since the addition of this new player removes someone else from the roster and changes other player's expected playing time (and thus their win shares), remove the win shares that those players would have been expected to generate before the new free agent's signing. Then, using the regression, calculate the revenues that correspond to the winning percentages of the team's roster just before and immediately after signing the free agent. By subtracting the predicted team's revenue without the free agent from the predicted revenue with the free agent, we would have the best estimate of the expected marginal revenue a free agent would bring to a team.

However, this process is painstakingly long and involves making some estimates that most likely would be very imprecise. For instance, which minor leaguers will a team bring up in order to fill roster spots? How well will these new rookies do? In order to calculate the marginal revenue of the over 350 free agents in the sample, we simplified the process.

For a free agent signing with a new team, we assumed that a team would have the same wins as they had the previous season plus the wins the free agent was expected to bring. By doing this, we are assuming that the team returned intact from the previous season, the only change being the addition of this free agent. Then using the estimated parameters, we calculated the revenue this winning percentage would generate. After that, we found the winning percentage and revenue that winning percentage would have generated had the team only added a replacement level player. By subtracting the revenue the team was expected to have with only the replacement level player to the

revenue the team was expected to have with the free agent, we have the expected marginal revenue for the free agent. This marginal revenue was given a lower bound of zero. Throughout this paper, a replacement level player is thought to bring one win share (a third of a win) to a team. This number was chosen because it was the average win share during the sample years of minimum salary players.

For free agents re-signing with the same team he previously played for, a similar process was undertaken, only with two differences. One is that the predicted wins for the upcoming season are calculated by subtracting the free agent's win shares from the previous season and adding back his expected win shares from the team's total the previous season. By doing this, we are assuming that the team returned intact from the previous season, the only change being the free agent exhibiting performance levels as forecasted, rather than duplicating the season he just had. The other is for the expected wins if the team does not resign the free agent, where instead, we subtracted the player's expected win shares and added back a replacement level player's win shares to the team's total from the previous season.

V. Bargaining Model

A Nash bargaining model with a risk of negotiation breakdown has been chosen for this study. This is because any negotiation between a free agent and a team does not have to end in a contract being signed (and often does not). In order to understand the model, it is best to go through some notation first. There are two players, A and B, who are bargaining over a cake of size π where $\pi > 0$. U_i is the utility function for player i . If negotiations break down in disagreement then player i obtains a payoff of b_i , where

$U_i(0) \leq b_i \leq U_i(\pi)$. This payoff b_i should be considered the outside option for player i . As a result, the payoff pair (b_A, b_B) is called the breakdown point (Muthoo 2002).

Not only is the breakdown point key to the bargaining outcome, but also each player's respective degree of risk aversion. Each player i 's taste for risk is shown by their discount rate, r_i . A higher discount rate, while being a sign of a risk taker, also means that a player is less patient in negotiations. In bargaining scenarios like this, there are subgame perfect equilibriums where each player plays the strategy that is the best he can choose given the strategy chosen by the other player. At these equilibriums, neither player has any incentive to deviate from its current strategy. For certain games, there is only one such equilibrium, which is known as the unique subgame perfect equilibrium.

The unique subgame perfect equilibrium in this situation is:

$$b_A + [r_B/(r_A+r_B)](\pi - b_A - b_B) \quad \text{and} \quad b_B + [r_A/(r_A+r_B)](\pi - b_A - b_B) \quad (5)$$

In the most basic scenario, both players have the same risk tolerance. In this situation the unique subgame perfect equilibrium involves both players "splitting the difference." This means that players agree to first "give player i ($i = A, B$) a share b_i of the cake, and then they split equally the remaining cake $\pi - b_A - b_B$," (Muthoo 2002). If the two players do not have the same discount rates (or levels of patience), then the ratio of their discount rates will determine how the remaining cake will be split.

VI. Application of the Bargaining Model

For the bargaining situation in the free agent market, the two players are the free agent and the team with which the free agent is negotiating. For the player, the welfare derived from reaching an agreement is equal to the annual salary the player will receive. The team's welfare from signing the free agents is best approximated as the marginal

revenue generated by the free agent minus his salary. Since the team is a firm, its discount rate is assumed to be just the real cost of capital (which we set at three percent). The actual rate chosen does not matter because it only enters the calculation as part of a ratio. If we had chosen a higher rate, the only effect it would have had on our results would have been to increase the discount rates of players. In the case of a disagreement, the assumptions are that the team gets nothing and the player gets his previous salary.

This model will predict the salary a free agent should receive from a team. Yet, this prediction is only as good as the assumptions the model is built on, some of which are not intuitively clear. It is reasonable to assume that the player's welfare is approximately equal to his new salary, and that failing to sign the free agent, the team receives nothing. More problematic are the team's utility in agreement and the player's utility in disagreement (Cobb 1993).

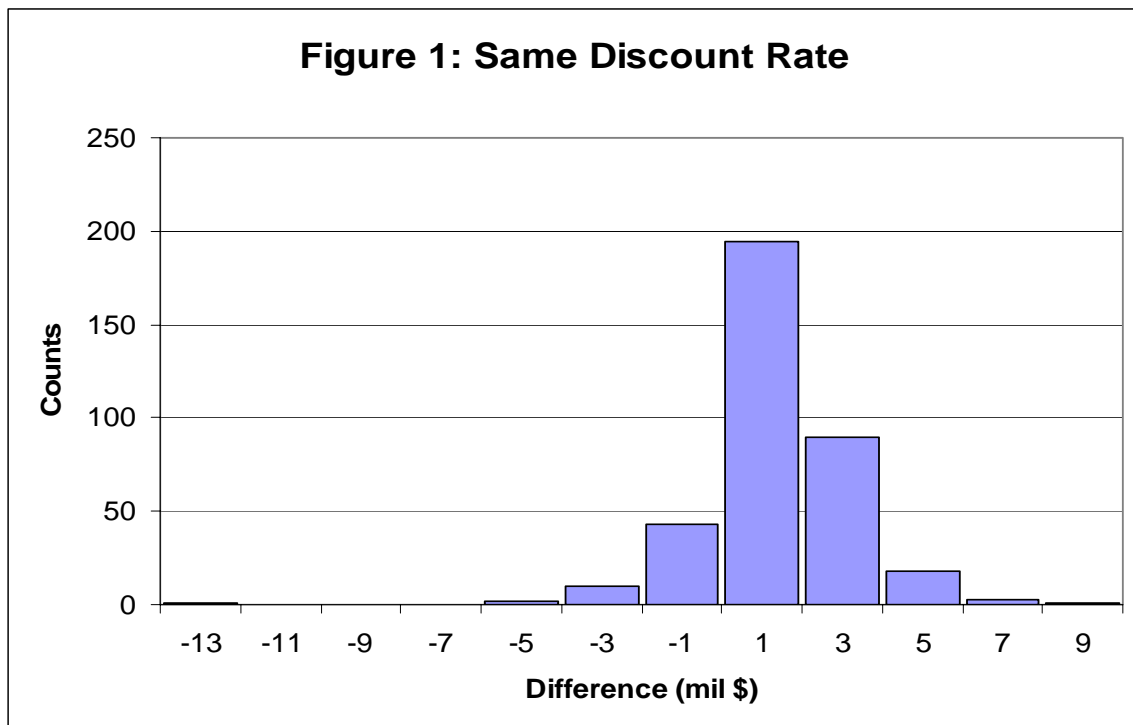
The model approximates the team's utility (which in this case is profit) as the difference between the free agent's marginal revenue product and his salary. It would not make sense for a team owner to pay more for labor than the value of its marginal product (if he knows its value). While in many cases the difference between the player's salary and marginal revenue is not very large, one could argue that this payoff is not great enough to keep owners in the industry. Yet, since the marginal revenue is only an estimate, and since owning a team indicates some utility for owners derived from the game itself (that is virtually impossible to measure), the team's utility in agreement as chosen in this model is not insupportable.

The other difficult assumption is that there are only two participants involved in the negotiation, which is often not the case. Frequently, there is more than one team

interested in signing a particular free agent. The presence of only two participants in the model makes it impossible to model the negotiations with all of the teams interested in a free agent. Therefore, the assumption that a player can return to his old team at his previous salary if he fails to sign a different free agent contract is a simplifying one which is not entirely implausible in most scenarios. In the sample, 122 of 362 free agents resigned with their previous team. Of those 122, 84 resigned with their previous teams for a contract of equal or greater value. The average growth in the value of the new contract for these players was nearly one million dollars (\$999,485). The average growth in the value of the new contract for all 122 players resigning with their previous team was \$188,063.

VII. Results

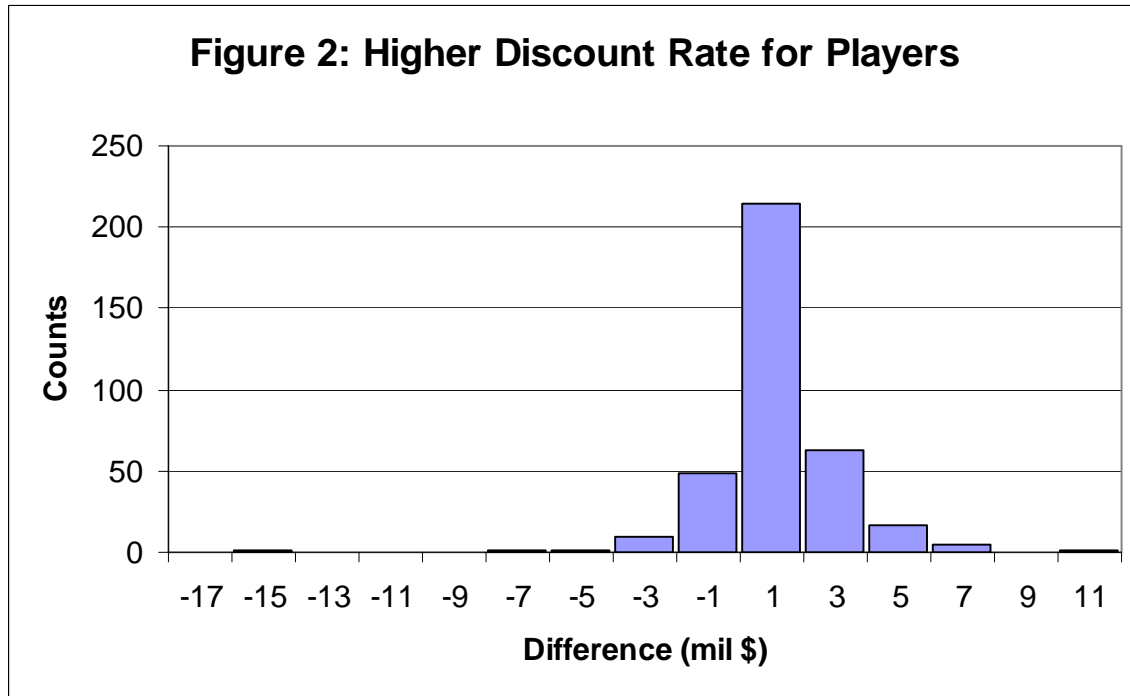
Now that each free agent's marginal revenue has been estimated (see Appendix A) and the Nash bargaining solution has been determined, these figures can be used to



test the predictive power of the Nash model in the case of the free agent market. First, let's consider the simplest model, where both the players and the team have the same discount rate. In this case, the average error (measured as the difference between the Nash predicted salary and the actual salary the free agent signed for) is over \$350,000. As can be seen in Figure 1, the errors using this specification of the bargaining model are skewed.

However, assuming that teams and free agents have the same discount rate is implausible. Teams plan on being in existence for long periods of time and thus have discount rates that are very low (equal to their cost of capital). Yet, when one considers that a player's average career length is under five years and that baseball rules stipulate that a player must have six years of major league service before becoming a free agent, we can conclude that free agents' discount rate should be higher than the rate teams use. This is because players' careers are much riskier than the future existence of a team. In fact, as the player discount rate gets higher, the current model's predictions become increasingly more accurate. Figure 2 shows the distribution of the average error given a player rate of fifteen percent. While the average error from the model continues to decrease with higher discount rates, assuming a rate higher than fifteen percent is difficult. The distribution of these errors is much closer to a normal distribution and the average error for the entire sample is only \$137,957.91, which is only slightly more than five percent of the average salary in the sample. Over twenty-seven percent of the sample have Nash predicted salaries within twenty percent of their actual salaries.

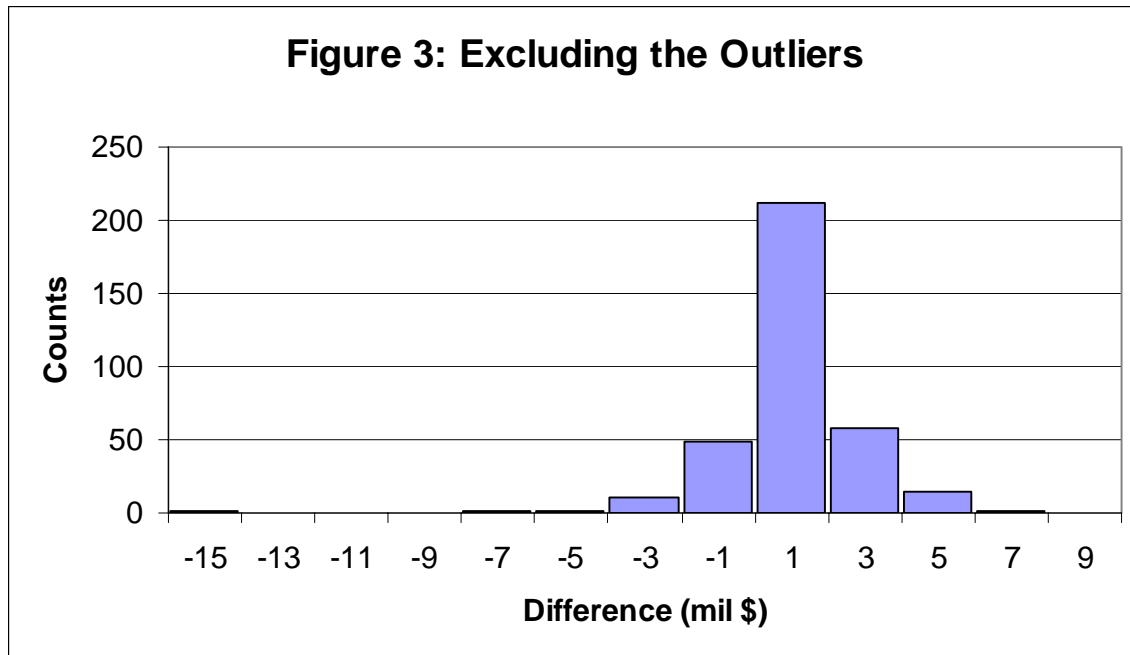
Using the fifteen percent discount rate, there are fifteen players whom have Nash



predicted salaries that are greater than five hundred percent away from their actual salaries. Surprisingly, only one of these players, Kenny Lofton, signed a contract worth more than \$1,000,000. In all of these cases, the Nash predicted salary is much higher than the player's actual new salary. These cases appear to be explained by two separate anomalies. The first is players that had a large previous contract that they did not play up to. For instance, Joey Hamilton's salary prior to becoming a free agent was over seven million dollars; yet he is only expected to be worth 2.33 win shares. In these situations, the assumption in the bargaining model that a player's disagreement value is his old salary pushes the predicted salary far too high. The second glitch is caused by players that have one highly abnormal season in their three prior seasons. We define an abnormal season as one that is at least 8 win shares greater than any other season in the three years prior to free agency, not including the season immediately before free agency. These seasons artificially inflate the estimated expected performance of a player, which

causes the expected marginal revenue a player brings to a team to be too high. This also pushes the predicted salary far too high.

If these fifteen players are excluded from the sample, then a player discount rate of 11.89% leaves the average error at \$0. Further, twenty-eight percent of this reduced sample have Nash predicted salaries within twenty percent of their actual salaries. As



can be seen in Figure 3, the distribution of errors is very close to normally distributed.

Using this discount rate, the model predicts that Steve Finley's salary should be

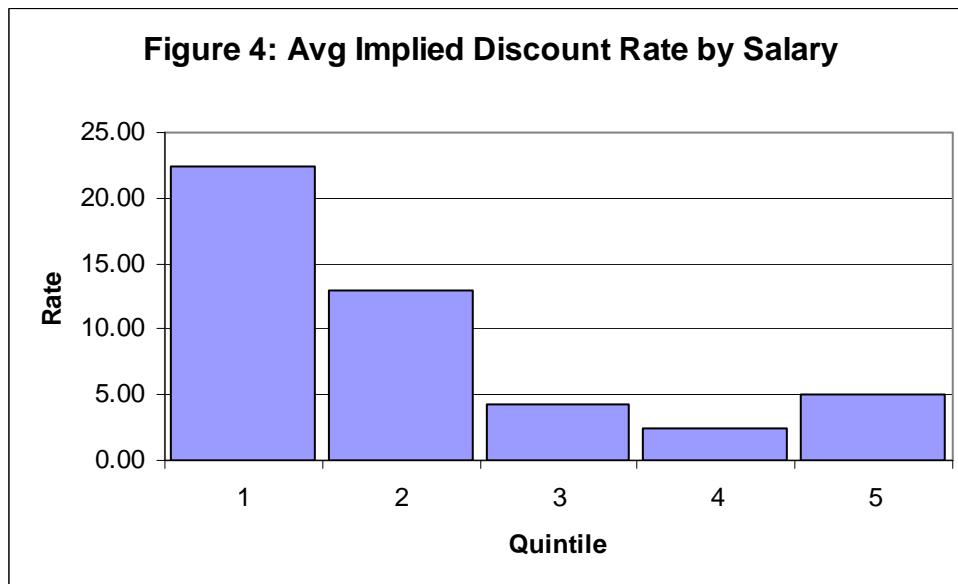
Table 5: Average Error of Predicted Salary By Year with Player Rate of 11.89%

Off-Season	Average Error
1998-99	\$20,350.89
1999-00	-\$7,082.16
2000-01	-\$323,627.04
2001-02	\$386,209.26

\$5,383,743.44 and he actually signed for \$5,375,000. Table 5 lists the average errors that the 11.89% discount rate gives us for the free agents from each off-season in our sample.

Another way to look at this problem is to solve for the implied discount rate that makes the predicted salary equal to the real salary for each player. There are certain cases that lead to an implied discount rate of infinity. For instance, all players who sign a contract that is of equal value to their previous contract will have an implied rate of infinity. Another example is players whose marginal revenue is zero, yet saw an increase in pay with their new salary. Removing those players with infinitely high implied discount rates from the sample, we are left with 223 free agents. There are a lot of interesting things we can consider with this smaller data set.

Breaking these remaining free agents into quintiles by salary (see Appendix E); there is a noticeable trend in the average implied discount rate. Figure 4 shows these results.

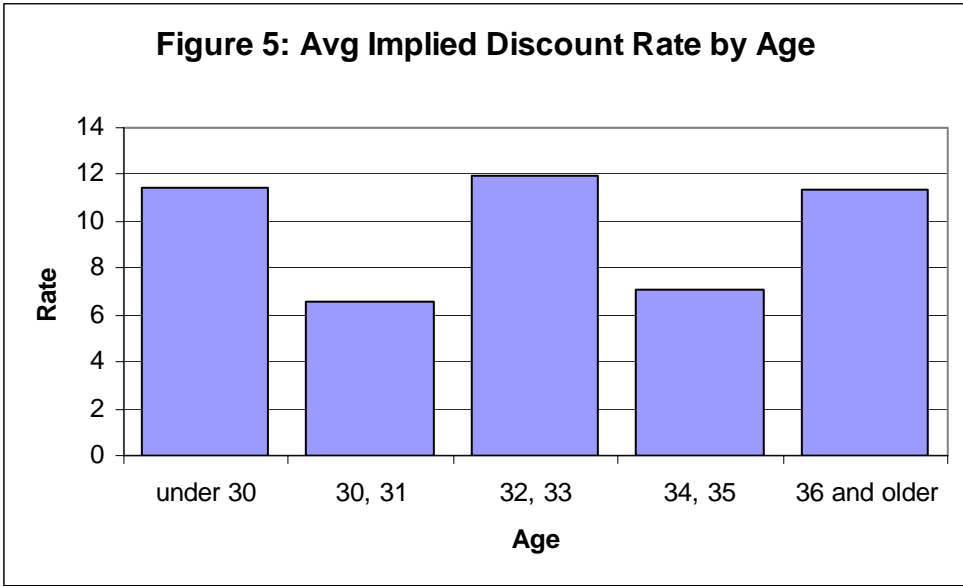


In the first quintile (those players with salaries less than or equal to \$750,000), the average implied discount rate is 22.34%. In the second quintile (those players with

salaries greater than \$750,000 and less than or equal to \$1.5 million), the average implied discount rate is 12.97%. In the third quintile (those players with salaries greater than \$1.5 million and less than or equal to \$2.4 million), the average is 4.34%. In the fourth quintile (those players with salaries greater than \$2.4 million and less than or equal to \$4.5 million), the average is 2.45%. In the last quintile (those players with salaries greater than \$4.5 million), the average rate is 4.97%. This shows that players expecting to earn a higher salary are much more patient than those players who earn less. This intuitively makes sense as a free agent with a higher salary (and thus a higher skill level) can expect to have more teams willing to sign him, and so can be more patient with each team because he can assume there will always still be a team willing to sign him.

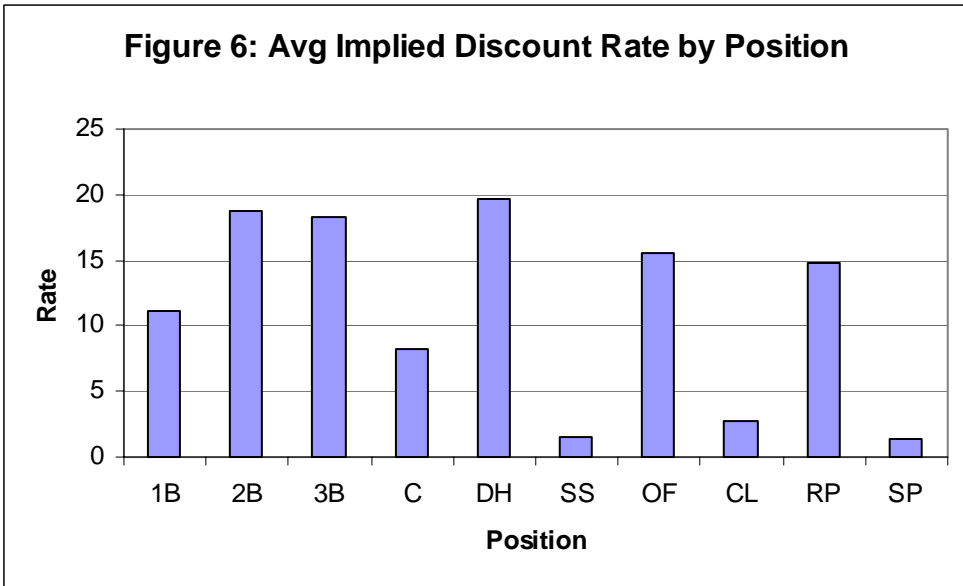
However, those free agents that are not earning as much (and thus possessing a lower expected performance) cannot afford to be nearly as patient because they are much more easily replaced. Interestingly, the average implied discount for players in the fourth quintile is less than the team discount rate. This is most likely due to the small sample size (only forty-five free agents) and not an indication that players in this salary range are more patient than teams in negotiations.

Figure 5 shows the average implied discount rate when the free agents are split into groups by their age. These results are intriguing yet inconclusive. There is no clear relationship between the age of the free agent and their implied discount rate. We reconcile this by noting that there are multiple factors that affect each player's discount rate. Since a larger discount rate really means a weaker bargaining position, we expected players reaching the end of their careers to have higher rates than younger players. Given the success of older players like Barry Bonds and Roger Clemens, older players may no



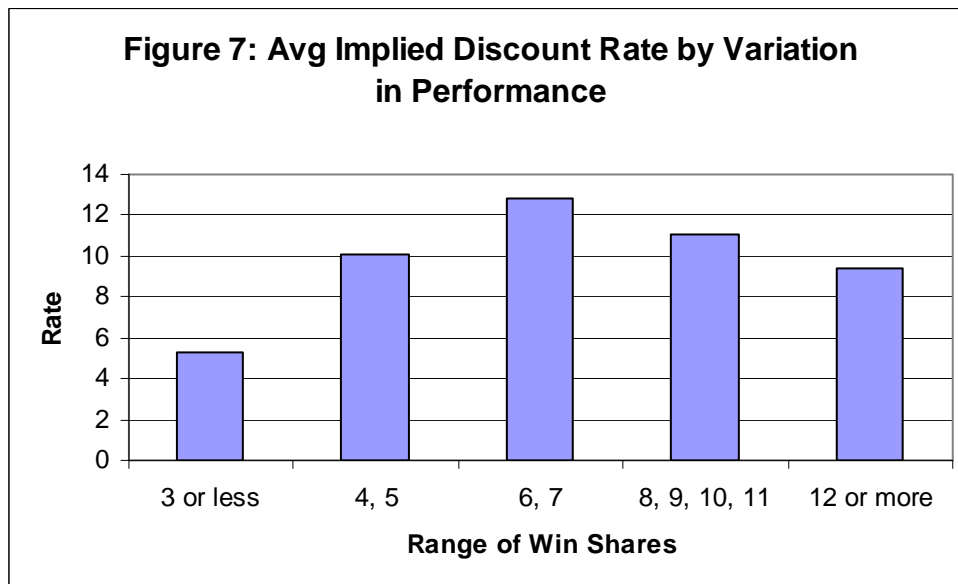
longer have such weak bargaining positions.

While there is no clear relationship between a free agent’s age and his discount rate, there does appear to be a relationship between a free agent’s position and his discount rate. As can be seen in Figure 6, players from certain positions seem to have more bargaining power. Shortstops and catchers (two of the positions regarded as the most critical for a team’s defense) have the lowest discount rates of any position players



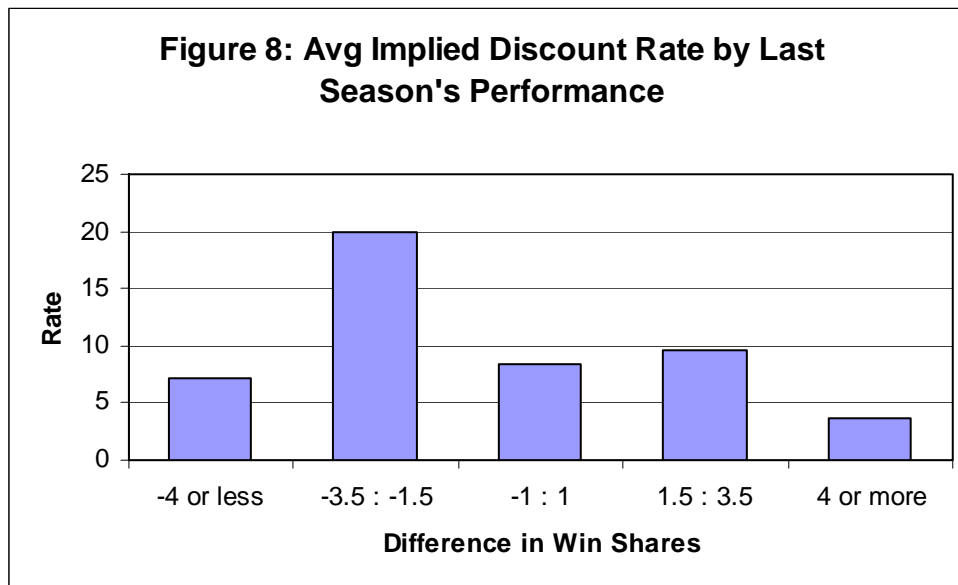
(1.46% and 8.29% respectively). Starting pitchers (1.39%) have the lowest discount rate of any group, which makes sense given the many baseball sayings like “pitching wins championships,” “you can never have too much starting pitching,” and “momentum is only as good as the next day’s starter.” With teams in such demand for starting pitchers, the pitchers are able to take very strong bargaining positions. Closers (2.77%) also have very low discount rates, which could be a sign of many teams’ belief that there are few players capable of handling the jitters of the ninth inning.

We have previously argued that the actual payoff a team will receive from signing a player is very uncertain. For players who do not perform consistently from year to year the payoffs to a team may appear to be even more tenuous. Do players whose level of play has little variance gain a better bargaining position because their expected payoffs are less risky? In order to test this, we calculated the range of win shares for a player in the three seasons prior to reaching free agency and compared that to the implied discount



rate the player exhibited. As can be seen in Figure 7, those players with the smallest variance (a range of three or less) did have a lower discount rate (5.28%) than any of the other groups. The relationship does not appear to be linear though, but instead quadratic.

We expected that players whose win shares trend upwards just prior to free agency would have lower discount rates than those whose win shares have been trending downwards.



To test this, we took the difference between the season just prior to free agency and the average of the two seasons before that final season. As can be seen in Figure 8, free agents performing much better (4 win shares or more) in their final seasons had lower discount rates than others, which is as we expected. The most surprising result is that those players that played worse (4 or more win shares less) than previously also had rather low discount rates. The overall relationship between discount rates and performance in the season just prior to free agency is fascinating yet inconclusive.

VIII. Conclusion

The goals with which this study initially set forth were to estimate the team revenue model, calculate the value of the marginal product of each free agent, and test the predictions that a Nash bargaining model makes about the free agents' salaries. All of these goals have been achieved, and the corresponding results are quite illuminating.

The team revenue model contained a statistically significant coefficient for winning percentage. The marginal revenues estimated from the win shares and the regression results seem reasonable. The Nash bargaining model produced a solution that provided estimates of the free agents' salaries. These estimates were quite accurate, and also showed that less talented players are less patient bargainers than their more talented peers.

These results are very satisfying in that they seem to indicate that the revenue regression was specified well enough to provide predictive power to the bargaining model. This is consistent with the hypothesis that the market for free agents in Major League Baseball is an example of a labor market in which wages are determined according to a bargaining equilibrium. Our findings suggest that while player salaries are very high, players are not overpaid. Certainly, there are some players whose salaries are much higher than our model predicts, yet, there are also those whose salaries are below what is predicted.

However, as is often the case with research projects, there are other things that would be interesting to examine. For instance, does the discount rate a free agent uses vary with the number of times a player has already been a free agent? Or with the winning percentage of the player's previous employer?

There are also ways in which there is room for improvement in the model. As described earlier, there are free agents coming from abroad (Japan, Cuba, etc.) and signing major league contracts. However, because these players do not have any Major League Baseball statistics, this model is unable to make any prediction of what their salary should be. Perhaps in the future, their stats and salary from their experience in their previous league can be turned into data that a model like this can use to make meaningful salary predictions.

Another area where this model struggles is in estimating the value of a replacement level player. Recently, Keith Woolner began trying to estimate how much better a player is than a replacement level player, with a new statistic called VORP (Value Over Replacement Player). Woolner calculates a player's VORP by finding how many runs one player adds to a lineup when surrounded by an average league lineup as compared to the runs the average league lineup would score with a waiver pickup or minor league call-up in that spot instead (Habib 2004). Unfortunately, at this juncture, VORP is only calculated for positional players and does not take into account anything but a player's offensive output. With more time it may be possible for someone to further grow VORP to include all phases of the game. Eventually it may be possible to calculate win shares over a replacement level player, which would lead to more accurate estimates of a free agent's expected value of marginal product.

The success we have had in building a model with predictive power for this specific labor market suggests that we could design similar models for other labor markets. The only roadblock preventing us from already doing this is reliable performance data for workers in other fields. With such data the salaries for scientists,

managers, and college professors could be predicted using a model similar to the one we have designed.

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Appendix A: Marginal Revenue Calculations

Name	New Team	Old Team	WS 3 yrs Prior	WS 2 yrs Prior	WS 1 yr Prior	Avg WS	Avg Wins/Year	Ws Prev. Season
Aaron Sele	ana	sea	13	12	14	13.00	4.33	75
Aaron Sele	sea	tex	7	14	13	11.33	3.78	79
Al Leiter	nym	nym	19	7	21	15.67	5.22	88
Alan Embree	sd	chw	6	3	2	3.67	1.22	79
Alan Mills	la	bal	5	1	7	4.33	1.44	83
Albert Belle	bal	chw	31	18	37	28.67	9.56	79
Albie Lopez	atl	ari	4	13	8	8.33	2.78	88
Alex Arias	sd	phi	3	10	2	5.00	1.67	76
Alex Cora	la	la	0	6	6	4.00	1.33	86
Alex Gonzalez	tor	tor	9	6	11	8.67	2.89	83
Alex Rodriguez	tex	sea	30	23	37	30.00	10.00	71
Allen Watson	nym	ana	7	9	2	6.00	2.00	88
Allen Watson	nyy	nyy	9	2	7	6.00	2.00	98
Alvin Morman	kc	sf	2	0	1	1.00	0.33	72
Andres Galarraga	tex	atl	27	0	16	14.33	4.78	71
Andy Ashby	la	atl	15	13	8	12.00	4.00	86
Andy Benes	stl	ari	0	14	8	7.33	2.44	75
Armando Reynoso	ari	ari	5	8	7	6.67	2.22	85
Armando Reynoso	ari	nym	10	5	5	6.67	2.22	65
Arthur Rhodes	sea	bal	10	7	2	6.33	2.11	79
Benito Santiago	sf	sf	7	6	10	7.67	2.56	90
Benito Santiago	chc	tor	19	9	1	9.67	3.22	89
Bernie Williams	nyy	nyy	26	24	27	25.67	8.56	114
Bill Haselman	det	tex	4	1	5	3.33	1.11	65
BJ Surhoff	bal	bal	17	19	13	16.33	5.44	79
Bobby Bonilla	stl	atl	5	0	6	3.67	1.22	95
Bobby Jones	sd	nym	11	4	1	5.33	1.78	76
Brent Mayne	col	sf	6	9	13	9.33	3.11	72
Bret Boone	sea	sd	18	17	15	16.67	5.56	91
Brian Bohanon	col	la	0	5	13	6.00	2.00	77
Brian Hunter	col	sea	17	9	4	10.00	3.33	72
Brian Johnson	kc	cin	6	7	2	5.00	1.67	64
Brian Jordan	atl	stl	27	1	21	16.33	5.44	106
Brian L. Hunter	phi	cin	9	4	4	5.67	1.89	65
Brian L. Hunter	hou	phi	4	4	5	4.33	1.44	93
Brian Williams	chc	hou	2	0	4	2.00	0.67	67
Buddy Groom	bal	oak	3	4	3	3.33	1.11	78
Butch Henry	sea	bos	0	9	0	3.00	1.00	76
Cal Eldred	chw	chw	3	0	7	3.33	1.11	95
Cal Ripken Jr	bal	bal	13	12	8	11.00	3.67	74
Carlos Hernandez	stl	hou	0	7	2	3.00	1.00	93
Carlos Hernandez	sd	sd	0	4	10	4.67	1.56	98

Appendix A: Continued

Pred Wins w/ FA	Pred Win % w/ FA	Pred Rev w/ FA	Pred Wins w/o FA	Pred Win % w/o FA	Pred Rev w/o FA	Marginal Revenue
79	0.490	\$ 143,653,631.92	75.34	0.465	\$ 138,551,319.62	\$ 5,102,312.30
83	0.511	\$ 128,411,367.05	79.39	0.490	\$ 124,654,698.66	\$ 3,756,668.40
86	0.532	\$ 210,582,532.45	83.08	0.513	\$ 205,239,186.94	\$ 5,343,345.51
80	0.496	\$ 87,291,035.35	79.39	0.490	\$ 86,614,025.11	\$ 677,010.24
84	0.521	\$ 185,326,814.76	83.28	0.514	\$ 183,617,216.29	\$ 1,709,598.47
89	0.547	\$ 174,245,739.43	79.39	0.490	\$ 161,360,854.61	\$ 12,884,884.82
91	0.560	\$ 145,657,935.75	88.30	0.545	\$ 142,903,574.04	\$ 2,754,361.71
78	0.479	\$ 89,313,604.94	76.31	0.471	\$ 88,238,454.91	\$ 1,075,150.03
85	0.527	\$ 156,821,964.52	85.02	0.525	\$ 156,393,187.91	\$ 428,776.61
82	0.507	\$ 80,237,206.23	80.39	0.496	\$ 79,019,470.54	\$ 1,217,735.69
81	0.500	\$ 119,379,627.43	71.29	0.440	\$ 109,226,013.10	\$ 10,153,614.33
90	0.555	\$ 216,992,801.11	88.30	0.545	\$ 214,174,367.18	\$ 2,818,433.93
98	0.603	\$ 240,687,455.14	96.34	0.595	\$ 238,385,520.98	\$ 2,301,934.16
73	0.449	\$ 95,545,785.97	72.75	0.449	\$ 95,545,479.94	\$ 306.03
76	0.467	\$ 113,942,872.59	71.29	0.440	\$ 109,226,013.10	\$ 4,716,859.49
90	0.556	\$ 167,524,554.01	86.36	0.533	\$ 162,724,689.50	\$ 4,799,864.51
78	0.481	\$ 97,907,632.19	75.83	0.468	\$ 96,045,845.48	\$ 1,861,786.71
85	0.524	\$ 175,845,212.82	83.16	0.513	\$ 173,263,858.36	\$ 2,581,354.47
67	0.415	\$ 198,666,414.15	65.30	0.403	\$ 194,744,635.57	\$ 3,921,778.58
81	0.501	\$ 126,599,795.18	79.39	0.490	\$ 124,654,698.66	\$ 1,945,096.53
89	0.551	\$ 150,911,330.89	87.85	0.542	\$ 149,200,333.26	\$ 1,710,997.63
93	0.572	\$ 157,583,260.72	89.76	0.554	\$ 154,131,736.72	\$ 3,451,524.01
114	0.701	\$ 282,887,218.34	105.83	0.653	\$ 269,204,555.21	\$ 13,682,663.13
66	0.408	\$ 107,098,519.45	65.30	0.403	\$ 106,215,318.61	\$ 883,200.84
80	0.495	\$ 162,464,748.43	73.94	0.456	\$ 153,543,240.51	\$ 8,921,507.92
96	0.594	\$ 104,768,753.41	95.27	0.588	\$ 104,090,540.04	\$ 678,213.37
78	0.480	\$ 89,402,926.48	76.31	0.471	\$ 88,238,454.91	\$ 1,164,471.57
75	0.463	\$ 117,409,610.60	72.26	0.446	\$ 114,353,956.27	\$ 3,055,654.33
97	0.596	\$ 128,563,478.72	91.38	0.564	\$ 123,664,384.59	\$ 4,899,094.13
79	0.487	\$ 133,246,621.01	77.28	0.477	\$ 131,273,669.41	\$ 1,972,951.60
75	0.465	\$ 117,652,549.07	72.26	0.446	\$ 114,353,956.27	\$ 3,298,592.80
66	0.408	\$ 83,831,120.49	64.81	0.400	\$ 82,645,939.91	\$ 1,185,180.59
111	0.688	\$ 205,677,994.84	106.28	0.656	\$ 199,034,270.95	\$ 6,643,723.89
67	0.413	\$ 101,933,468.80	65.30	0.403	\$ 100,269,257.84	\$ 1,664,210.96
94	0.583	\$ 129,913,018.29	93.32	0.576	\$ 128,842,293.40	\$ 1,070,724.89
68	0.418	\$ 119,466,593.30	67.40	0.416	\$ 119,054,915.90	\$ 411,677.39
79	0.488	\$ 149,987,587.45	78.26	0.483	\$ 148,953,827.26	\$ 1,033,760.19
77	0.478	\$ 136,987,443.82	76.80	0.474	\$ 136,161,867.23	\$ 825,576.59
94	0.578	\$ 160,325,289.64	94.15	0.581	\$ 160,856,034.42	\$ -
75	0.463	\$ 132,940,190.80	70.70	0.436	\$ 127,525,229.41	\$ 5,414,961.39
94	0.580	\$ 100,322,634.91	93.32	0.576	\$ 99,824,435.11	\$ 498,199.80
96	0.594	\$ 129,301,438.25	96.79	0.597	\$ 129,822,464.44	\$ -

Appendix A: Continued

Name	New Team	Old Team	WS 3 yrs Prior	WS 2 yrs Prior	WS 1 yr Prior	Avg WS	Avg Wins/Year	Ws Prev. Season
Chad Kreuter	kc	ana	3	5	7	5.00	1.67	72
Chad Krueter	la	la	7	3	9	6.33	2.11	86
Chan Ho Park	tex	la	6	18	16	13.33	4.44	73
Charles Johnson	fla	fla	15	12	20	15.67	5.22	80
Chris Gomez	tb	tb	6	1	8	5.00	1.67	62
Chris Stynes	chc	bos	2	13	8	7.67	2.56	88
Chuck Finley	cle	ana	11	17	14	14.00	4.67	97
Chuck Knoblauch	kc	nyy	25	10	11	15.33	5.11	65
Craig Grebeck	tor	tor	1	3	7	3.67	1.22	88
Craig Grebeck	bos	tor	7	4	8	6.33	2.11	85
Craig Paquette	det	stl	5	8	12	8.33	2.78	66
Dan Miceli	tex	col	4	5	3	4.00	1.33	73
Dan Plesac	tor	ari	7	2	4	4.33	1.44	83
Dan Wilson	sea	sea	21	7	9	12.33	4.11	79
Danny Bautista	ari	ari	3	10	6	6.33	2.11	92
Danny Graves	cin	cin	16	18	11	15.00	5.00	66
Darren Bragg	stl	bos	10	11	11	10.67	3.56	83
Darren Bragg	col	stl	11	11	7	9.67	3.22	72
Darren Dreifort	la	la	9	8	9	8.67	2.89	86
Darren Lewis	bos	bos	7	4	17	9.33	3.11	92
Darren Lewis	chc	bos	7	4	4	5.00	1.67	88
Darren Oliver	tex	stl	12	4	13	9.67	3.22	95
Darrin Fletcher	tor	tor	11	13	14	12.67	4.22	83
Darryl Hamilton	col	col	11	15	19	15.00	5.00	77
Darryl Kile	stl	stl	13	6	17	12.00	4.00	95
Dave Burba	tex	cle	15	13	3	10.33	3.44	73
Dave Hansen	la	la	6	0	3	3.00	1.00	77
Dave Hansen	la	la	0	3	6	3.00	1.00	86
Dave Magadan	sd	oak	3	9	5	5.67	1.89	98
Dave Magadan	sd	sd	5	4	4	4.33	1.44	76
Dave Martinez	atl	tor	3	13	7	7.67	2.56	95
David Cone	nyy	nyy	16	17	15	16.00	5.33	98
David Cone	nyy	nyy	8	16	17	13.67	4.56	114
David Cone	bos	nyy	17	15	0	10.67	3.56	85
David Segui	bal	cle	15	10	18	14.33	4.78	74
David Segui	tor	tor	16	15	10	13.67	4.56	84
David Weathers	nym	chc	6	7	10	7.67	2.56	82
David Weathers	mil	mil	0	4	6	3.33	1.11	75
David Wells	nyy	chw	13	18	5	12.00	4.00	96
Dean Palmer	det	kc	15	11	12	12.67	4.22	65
Delino DeShields	chc	chc	7	21	8	12.00	4.00	88
Delino DeShields	bal	stl	11	21	15	15.67	5.22	79

Appendix A: Continued

Pred Wins w/ FA	Pred Win % w/ FA	Pred Rev w/ FA	Pred Wins w/o FA	Pred Win % w/o FA	Pred Rev w/o FA	Marginal Revenue
74	0.457	\$ 96,766,543.10	72.75	0.449	\$ 95,545,479.94	\$ 1,221,063.16
85	0.526	\$ 161,111,767.44	84.24	0.520	\$ 159,933,590.58	\$ 1,178,176.87
78	0.478	\$ 112,017,926.43	73.40	0.453	\$ 107,830,326.34	\$ 4,187,600.09
78	0.482	\$ 92,574,100.85	74.65	0.461	\$ 89,700,483.09	\$ 2,873,617.77
61	0.377	\$ 120,394,162.18	60.71	0.375	\$ 119,933,794.14	\$ 460,368.04
91	0.559	\$ 132,939,767.98	88.30	0.545	\$ 130,649,634.73	\$ 2,290,133.25
102	0.628	\$ 158,218,989.05	97.37	0.601	\$ 153,475,609.55	\$ 4,743,379.51
70	0.433	\$ 78,390,126.37	65.30	0.403	\$ 74,614,212.53	\$ 3,775,913.85
87	0.536	\$ 98,547,009.20	87.08	0.538	\$ 98,722,924.70	\$ -
87	0.538	\$ 124,962,246.61	85.38	0.527	\$ 123,174,753.70	\$ 1,787,492.91
69	0.424	\$ 130,839,224.62	66.27	0.409	\$ 127,567,414.90	\$ 3,271,809.73
74	0.459	\$ 108,855,550.65	73.40	0.453	\$ 107,830,326.34	\$ 1,025,224.31
84	0.521	\$ 81,748,000.75	83.28	0.514	\$ 80,993,893.70	\$ 754,107.05
80	0.495	\$ 125,507,480.16	75.28	0.465	\$ 120,106,463.91	\$ 5,401,016.25
92	0.569	\$ 199,391,606.06	90.24	0.557	\$ 196,524,532.15	\$ 2,867,073.91
67	0.415	\$ 79,235,379.36	61.27	0.378	\$ 74,225,787.42	\$ 5,009,591.94
86	0.534	\$ 112,271,626.56	83.28	0.514	\$ 109,331,196.58	\$ 2,940,429.99
75	0.464	\$ 117,531,106.86	72.26	0.446	\$ 114,353,956.27	\$ 3,177,150.59
86	0.530	\$ 162,139,252.00	83.47	0.515	\$ 158,900,000.29	\$ 3,239,251.71
89	0.552	\$ 146,391,291.58	89.24	0.551	\$ 146,136,625.24	\$ 254,666.35
90	0.553	\$ 132,025,905.95	88.30	0.545	\$ 130,649,634.73	\$ 1,376,271.22
98	0.606	\$ 148,813,532.86	95.27	0.588	\$ 145,737,825.25	\$ 3,075,707.61
82	0.509	\$ 80,464,602.14	79.05	0.488	\$ 78,101,015.80	\$ 2,363,586.34
76	0.467	\$ 129,288,662.81	72.28	0.446	\$ 125,277,416.66	\$ 4,011,246.15
93	0.576	\$ 102,558,380.37	91.27	0.563	\$ 101,015,784.55	\$ 1,542,595.83
77	0.472	\$ 111,005,687.38	73.40	0.453	\$ 107,830,326.34	\$ 3,175,361.04
77	0.475	\$ 162,718,581.95	76.28	0.471	\$ 161,731,373.56	\$ 987,208.39
85	0.525	\$ 160,964,753.75	85.36	0.527	\$ 161,405,181.09	\$ -
100	0.617	\$ 132,725,830.40	98.34	0.607	\$ 131,277,448.07	\$ 1,448,382.33
76	0.470	\$ 88,059,030.00	74.87	0.462	\$ 87,067,599.19	\$ 991,430.81
97	0.602	\$ 163,584,645.77	95.27	0.588	\$ 160,968,664.97	\$ 2,615,980.80
98	0.607	\$ 241,834,584.92	93.01	0.574	\$ 232,589,706.01	\$ 9,244,878.91
113	0.697	\$ 281,725,767.91	109.83	0.678	\$ 276,277,509.84	\$ 5,448,258.07
89	0.547	\$ 126,406,243.80	85.38	0.527	\$ 123,174,753.70	\$ 3,231,490.10
79	0.486	\$ 137,584,145.75	74.37	0.459	\$ 132,113,024.05	\$ 5,471,121.69
85	0.527	\$ 90,126,617.35	79.86	0.493	\$ 86,065,552.21	\$ 4,061,065.14
85	0.522	\$ 205,002,624.64	82.31	0.508	\$ 201,219,637.48	\$ 3,782,987.16
74	0.455	\$ 75,700,713.77	73.74	0.455	\$ 75,780,307.56	\$ -
100	0.619	\$ 223,349,052.28	96.56	0.596	\$ 217,605,039.97	\$ 5,744,012.30
69	0.427	\$ 110,599,048.09	65.30	0.403	\$ 106,215,318.61	\$ 4,383,729.48
89	0.551	\$ 131,682,505.27	84.30	0.520	\$ 126,483,736.76	\$ 5,198,768.51
84	0.520	\$ 168,244,598.77	79.39	0.490	\$ 161,360,854.61	\$ 6,883,744.16

Appendix A: Continued

Name	New Team	Old Team	WS 3 yrs Prior	WS 2 yrs Prior	WS 1 yr Prior	Avg WS	Avg Wins/Year	Ws Prev. Season
Dennis Cook	nym	nym	7	5	9	7.00	2.33	88
Denny Neagle	col	nyy	14	7	13	11.33	3.78	82
Derek Bell	pit	nym	22	16	16	18.00	6.00	69
Devon White	la	ari	18	9	18	15.00	5.00	83
Dennis Cook	ana	phi	7	3	3	4.33	1.44	75
Doug Brocail	hou	hou	12	5	0	5.67	1.89	93
Jason Schmidt	sf	sf	13	1	9	7.67	2.56	90
Jay Powell	tex	col	10	2	9	7.00	2.33	73
John Burkett	bos	atl	6	7	17	10.00	3.33	82
Sterling Hitchcock	nyy	nyy	10	1	2	4.33	1.44	96
Doug Glanville	phi	phi	23	10	11	14.67	4.89	86
Doug Henry	hou	hou	3	7	2	4.00	1.33	97
Doug Henry	kc	sf	7	2	6	5.00	1.67	77
Doug Jones	oak	cle	5	19	6	10.00	3.33	74
Doug Jones	oak	oak	19	6	11	12.00	4.00	87
Ed Sprague	pit	oak	17	6	6	9.67	3.22	69
Eddie Perez	atl	atl	8	1	0	3.00	1.00	88
Edgar Martinez	sea	sea	27	24	22	24.33	8.11	79
Ellis Burks	cle	sf	14	24	21	19.67	6.56	90
Ellis Burks	sf	sf	28	15	14	19.00	6.33	88
Eric Davis	stl	bal	22	6	18	15.33	5.11	83
Eric Davis	sf	stl	18	5	8	10.33	3.44	97
Eric Young	chc	mil	14	18	16	16.00	5.33	88
F.P. Santangelo	la	sf	10	6	10	8.67	2.89	77
FP Santangelo	sf	mon	18	10	6	11.33	3.78	88
Frank Castillo	bos	tor	0	0	12	4.00	1.33	85
Gary DiSarcina	ana	ana	15	2	2	6.33	2.11	82
Gary Gaetti	chc	chc	16	9	16	13.67	4.56	89
Gerald Williams	tb	atl	9	12	13	11.33	3.78	69
Glenallen Hill	chc	chc	13	11	11	11.67	3.89	89
Graeme Lloyd	mon	tor	3	5	7	5.00	1.67	68
Greg Colbrunn	ari	atl	10	4	4	6.00	2.00	65
Greg Myers	bal	atl	3	4	6	4.33	1.44	78
Greg Norton	col	chw	4	11	3	6.00	2.00	82
Greg Swindell	ari	bos	1	10	9	6.67	2.22	65
Greg Vaughn	tb	cin	7	30	24	20.33	6.78	69
Gregg Jefferies	det	ana	10	10	14	11.33	3.78	65
Gregg Olson	la	ari	4	12	9	8.33	2.78	77
Gregg Zaun	hou	kc	3	9	4	5.33	1.78	93
Hal Morris	cin	cin	4	5	3	4.00	1.33	95
Hal Morris	cin	cin	18	4	5	9.00	3.00	77
Harold Baines	chw	chw	8	15	4	9.00	3.00	95

Appendix A: Continued

Pred Wins w/ FA	Pred Win % w/ FA	Pred Rev w/ FA	Pred Wins w/o FA	Pred Win % w/o FA	Pred Rev w/o FA	Marginal Revenue
87	0.539	\$ 212,476,529.89	85.97	0.531	\$ 210,202,283.55	\$ 2,274,246.34
86	0.529	\$ 116,421,504.60	82.31	0.508	\$ 113,132,141.36	\$ 3,289,363.25
75	0.463	\$ 117,398,785.43	69.35	0.428	\$ 111,126,160.67	\$ 6,272,624.75
88	0.543	\$ 190,751,016.78	83.28	0.514	\$ 183,617,216.29	\$ 7,133,800.50
76	0.472	\$ 139,976,945.65	75.34	0.465	\$ 138,551,319.62	\$ 1,425,626.03
95	0.586	\$ 130,340,116.76	91.43	0.564	\$ 127,013,754.25	\$ 3,326,362.51
90	0.553	\$ 151,304,898.88	87.85	0.542	\$ 149,200,333.26	\$ 2,104,565.62
75	0.465	\$ 109,876,294.44	73.40	0.453	\$ 107,830,326.34	\$ 2,045,968.10
86	0.530	\$ 120,407,707.38	82.79	0.511	\$ 117,448,458.47	\$ 2,959,248.91
97	0.599	\$ 218,305,197.73	95.12	0.587	\$ 215,324,502.61	\$ 2,980,695.12
87	0.539	\$ 118,976,263.42	81.47	0.503	\$ 113,411,702.62	\$ 5,564,560.80
98	0.603	\$ 158,750,392.61	96.04	0.593	\$ 156,852,186.87	\$ 1,898,205.74
79	0.485	\$ 87,362,840.86	77.28	0.477	\$ 86,324,210.17	\$ 1,038,630.70
77	0.478	\$ 134,253,362.96	74.37	0.459	\$ 130,592,412.68	\$ 3,660,950.27
87	0.539	\$ 136,514,132.60	83.33	0.514	\$ 132,112,091.05	\$ 4,402,041.55
72	0.446	\$ 94,399,676.84	69.35	0.428	\$ 91,744,171.79	\$ 2,655,505.05
89	0.549	\$ 143,657,288.68	87.30	0.539	\$ 141,770,347.59	\$ 1,886,941.09
80	0.493	\$ 125,142,465.36	71.28	0.440	\$ 115,608,809.16	\$ 9,533,656.20
97	0.596	\$ 137,689,069.21	90.41	0.558	\$ 131,429,233.07	\$ 6,259,836.14
90	0.556	\$ 132,254,587.55	82.45	0.509	\$ 124,284,817.16	\$ 7,969,770.39
88	0.544	\$ 113,679,164.12	83.28	0.514	\$ 109,331,196.58	\$ 4,347,967.54
100	0.620	\$ 173,407,281.36	97.37	0.601	\$ 169,636,146.76	\$ 3,771,134.60
93	0.576	\$ 135,778,358.12	88.30	0.545	\$ 130,649,634.73	\$ 5,128,723.40
80	0.493	\$ 166,965,014.35	77.28	0.477	\$ 163,210,481.64	\$ 3,754,532.71
92	0.569	\$ 134,412,704.05	88.79	0.548	\$ 130,883,384.16	\$ 3,529,319.89
86	0.533	\$ 124,181,728.70	85.38	0.527	\$ 123,174,753.70	\$ 1,006,975.00
83	0.515	\$ 152,584,130.53	80.19	0.495	\$ 148,439,317.76	\$ 4,144,812.78
89	0.547	\$ 152,795,911.75	85.20	0.526	\$ 148,620,735.31	\$ 4,175,176.45
73	0.449	\$ 167,663,864.19	69.35	0.428	\$ 162,077,060.84	\$ 5,586,803.35
93	0.576	\$ 158,375,047.41	89.76	0.554	\$ 154,131,736.72	\$ 4,243,310.69
70	0.430	\$ 86,436,609.03	68.37	0.422	\$ 85,277,255.15	\$ 1,159,353.88
67	0.413	\$ 198,206,848.80	65.30	0.403	\$ 194,744,635.57	\$ 3,462,213.24
79	0.490	\$ 150,429,499.58	78.26	0.483	\$ 148,953,827.26	\$ 1,475,672.32
84	0.518	\$ 114,729,003.11	82.31	0.508	\$ 113,132,141.36	\$ 1,596,861.75
67	0.415	\$ 198,666,414.15	65.30	0.403	\$ 194,744,635.57	\$ 3,921,778.58
76	0.468	\$ 172,464,754.06	69.35	0.428	\$ 162,077,060.84	\$ 10,387,693.22
69	0.424	\$ 110,101,919.40	65.30	0.403	\$ 106,215,318.61	\$ 3,886,600.79
80	0.492	\$ 166,802,554.64	77.28	0.477	\$ 163,210,481.64	\$ 3,592,073.00
95	0.585	\$ 130,233,398.70	93.32	0.576	\$ 128,842,293.40	\$ 1,391,105.30
96	0.591	\$ 113,214,548.33	94.42	0.583	\$ 112,109,946.38	\$ 1,104,601.95
78	0.483	\$ 105,081,496.36	74.28	0.459	\$ 101,298,446.61	\$ 3,783,049.74
97	0.596	\$ 163,764,360.99	92.27	0.570	\$ 158,593,410.26	\$ 5,170,950.74

Appendix A: Continued

Name	New Team	Old Team	WS 3 yrs Prior	WS 2 yrs Prior	WS 1 yr Prior	Avg WS	Avg Wins/Year	Ws Prev. Season
Harold Baines	bal	cle	12	8	15	11.67	3.89	78
Heathcliff Slocumb	bal	sea	15	4	3	7.33	2.44	79
Heathcliff Slocumb	stl	stl	4	3	7	4.67	1.56	75
Henry Rodriguez	chc	chc	19	16	16	17.00	5.67	89
Henry Rodriguez	nyy	fla	16	17	11	14.67	4.89	87
Hideo Nomo	la	bos	10	10	11	10.33	3.44	86
Hideo Nomo	bos	det	4	10	10	8.00	2.67	85
Ismael Valdes	ana	la	9	10	2	7.00	2.33	82
Ismael Valdes	ana	tex	10	2	10	7.33	2.44	75
James Baldwin	sea	la	9	11	8	9.33	3.11	116
Jason Bere	chc	cle	2	1	7	3.33	1.11	65
Jason Bere	mil	mil	2	2	1	1.67	0.56	75
Jason Christiansen	sf	sf	4	4	4	4.00	1.33	90
Jason Giambi	nyy	oak	30	38	38	35.33	11.78	96
Jason Isringhausen	stl	oak	4	10	14	9.33	3.11	93
Javy Lopez	atl	atl	11	16	13	13.33	4.44	88
Jay Buhner	sea	sea	8	8	16	10.67	3.56	91
Jay Buhner	sea	sea	19	8	8	11.67	3.89	79
Jeff Brantley	tex	phi	5	1	3	3.00	1.00	71
Jeff Brantley	phi	phi	1	5	1	2.33	0.78	77
Jeff Conine	bal	bal	9	6	10	8.33	2.78	78
Jeff Fassero	chc	bos	14	1	8	7.67	2.56	65
Jeff Fassero	bos	tex	17	14	1	10.67	3.56	94
Jeff Frye	tor	col	0	3	8	3.67	1.22	83
Jeff Montgomery	kc	kc	9	8	8	8.33	2.78	72
Jeff Nelson	sea	nyy	4	2	9	5.00	1.67	91
Jeffrey Hammonds	mil	col	9	8	14	10.33	3.44	73
Jerry DiPoto	col	col	10	13	9	10.67	3.56	72
Jim Leyritz	nyy	nyy	15	9	5	9.67	3.22	98
Joe Girardi	chc	nyy	9	7	3	6.33	2.11	67
Joe Oliver	nyy	sea	2	3	8	4.33	1.44	87
Joey Hamilton	cin	cin	2	3	2	2.33	0.78	66
John Burkett	atl	atl	7	6	7	6.67	2.22	95
John Burkett	atl	tb	10	7	6	7.67	2.56	103
John Flaherty	tb	tb	11	5	12	9.33	3.11	69
John Franco	nym	nym	8	6	7	7.00	2.33	94
John Jaha	oak	oak	3	5	22	10.00	3.33	87
John Mabry	sea	stl	13	8	5	8.67	2.89	76
John Olerud	sea	nym	27	34	26	29.00	9.67	79
John Smoltz	atl	atl	18	0	8	8.67	2.89	88
John Valentin	nym	bos	12	0	1	4.33	1.44	82
John Vander Wal	sd	sd	4	0	4	2.67	0.89	98

Appendix A: Continued

Pred Wins w/ FA	Pred Win % w/ FA	Pred Rev w/ FA	Pred Wins w/o FA	Pred Win % w/o FA	Pred Rev w/o FA	Marginal Revenue
82	0.505	\$ 153,653,323.46	78.26	0.483	\$ 148,953,827.26	\$ 4,699,496.20
82	0.503	\$ 164,348,862.62	79.39	0.490	\$ 161,360,854.61	\$ 2,988,008.01
75	0.461	\$ 95,060,151.63	74.27	0.458	\$ 94,664,225.29	\$ 395,926.35
90	0.554	\$ 154,132,136.83	84.09	0.519	\$ 147,263,258.34	\$ 6,868,878.50
92	0.570	\$ 215,480,645.30	87.81	0.542	\$ 207,995,089.66	\$ 7,485,555.63
89	0.552	\$ 162,064,322.29	86.36	0.533	\$ 158,103,572.94	\$ 3,960,749.35
88	0.541	\$ 125,518,476.23	85.38	0.527	\$ 123,174,753.70	\$ 2,343,722.53
84	0.520	\$ 153,718,873.61	82.31	0.508	\$ 151,160,141.45	\$ 2,558,732.16
77	0.478	\$ 141,254,301.06	75.34	0.465	\$ 138,551,319.62	\$ 2,702,981.45
119	0.735	\$ 142,082,653.95	116.33	0.718	\$ 139,757,824.21	\$ 2,324,829.75
66	0.408	\$ 109,084,859.00	65.30	0.403	\$ 108,185,277.58	\$ 899,581.43
75	0.461	\$ 76,497,425.70	74.30	0.459	\$ 76,178,932.73	\$ 318,492.97
90	0.556	\$ 151,828,971.63	89.07	0.550	\$ 150,648,312.47	\$ 1,180,659.16
108	0.667	\$ 235,327,496.04	96.56	0.596	\$ 217,605,039.97	\$ 17,722,456.07
96	0.593	\$ 101,892,518.44	93.32	0.576	\$ 99,824,435.11	\$ 2,068,083.33
88	0.544	\$ 142,652,458.59	83.85	0.518	\$ 137,836,681.29	\$ 4,815,777.30
89	0.551	\$ 121,660,563.93	87.82	0.542	\$ 120,280,770.97	\$ 1,379,792.95
80	0.496	\$ 125,629,050.18	75.50	0.466	\$ 120,354,194.64	\$ 5,274,855.54
72	0.444	\$ 109,939,368.76	71.29	0.440	\$ 109,226,013.10	\$ 713,355.65
77	0.478	\$ 122,817,911.19	76.51	0.472	\$ 121,829,807.65	\$ 988,103.54
77	0.478	\$ 147,769,544.25	75.48	0.466	\$ 145,237,847.59	\$ 2,531,696.67
68	0.417	\$ 110,746,392.10	65.30	0.403	\$ 108,185,277.58	\$ 2,561,114.53
98	0.602	\$ 146,073,045.20	94.29	0.582	\$ 142,681,725.83	\$ 3,391,319.37
84	0.520	\$ 81,597,464.84	83.28	0.514	\$ 80,993,893.70	\$ 603,571.14
73	0.448	\$ 95,341,674.22	69.97	0.432	\$ 92,980,350.69	\$ 2,361,323.54
93	0.572	\$ 124,923,287.57	91.38	0.564	\$ 123,664,384.59	\$ 1,258,902.98
77	0.472	\$ 114,559,086.94	73.40	0.453	\$ 111,282,079.52	\$ 3,277,007.42
72	0.447	\$ 114,600,033.13	68.71	0.424	\$ 110,391,038.66	\$ 4,208,994.46
100	0.615	\$ 243,931,598.10	95.12	0.587	\$ 236,267,506.09	\$ 7,664,092.01
69	0.427	\$ 121,241,760.54	67.40	0.416	\$ 119,054,915.90	\$ 2,186,844.64
89	0.549	\$ 209,831,817.06	87.81	0.542	\$ 207,995,089.66	\$ 1,836,727.40
66	0.408	\$ 78,226,250.49	65.49	0.404	\$ 77,765,423.62	\$ 460,826.87
95	0.585	\$ 160,443,747.54	93.04	0.574	\$ 158,334,644.52	\$ 2,109,103.02
106	0.652	\$ 199,419,300.68	103.37	0.638	\$ 196,475,695.81	\$ 2,943,604.86
68	0.421	\$ 160,075,433.24	66.23	0.409	\$ 156,959,197.71	\$ 3,116,235.53
94	0.580	\$ 238,338,139.98	91.96	0.568	\$ 234,779,850.66	\$ 3,558,289.32
83	0.512	\$ 131,742,816.99	83.99	0.518	\$ 132,850,046.82	\$ -
79	0.490	\$ 139,313,892.57	76.80	0.474	\$ 136,161,867.23	\$ 3,152,025.34
89	0.548	\$ 134,726,509.26	79.39	0.490	\$ 124,654,698.66	\$ 10,071,810.61
88	0.544	\$ 142,778,228.71	85.41	0.527	\$ 139,619,082.24	\$ 3,159,146.47
83	0.515	\$ 203,115,207.07	82.31	0.508	\$ 201,219,637.48	\$ 1,895,569.59
98	0.602	\$ 130,551,140.82	97.45	0.602	\$ 130,446,884.25	\$ 104,256.57

Appendix A: Continued

Name	New Team	Old Team	WS 3 yrs Prior	WS 2 yrs Prior	WS 1 yr Prior	Avg WS	Avg Wins/Year	Ws Prev. Season
Johnny Damon	bos	oak	18	26	17	20.33	6.78	82
Jorge Fabregas	ana	ana	5	3	3	3.67	1.22	75
Jose Canseco	tb	tor	13	8	15	12.00	4.00	63
Jose Guillen	ari	tb	3	6	2	3.67	1.22	92
Jose Hernandez	mil	atl	4	16	16	12.00	4.00	75
Jose Mesa	phi	sea	5	5	3	4.33	1.44	65
Jose Mesa	sea	sf	12	11	5	9.33	3.11	76
Jose Offerman	bos	kc	18	9	29	18.67	6.22	92
Jose Valentin	chw	chw	19	12	24	18.33	6.11	95
Jose Valentin	mil	mil	13	15	8	12.00	4.00	75
Jose Vizcaino	hou	hou	4	3	4	3.67	1.22	93
Jose Vizcaino	hou	nyy	8	4	3	5.00	1.67	72
Juan Gonzalez	tex	cle	24	9	23	18.67	6.22	73
Juan Gonzalez	cle	det	25	24	9	19.33	6.44	90
Juan Guzman	tb	cin	1	11	13	8.33	2.78	69
Julian Tavaraz	chc	col	5	1	10	5.33	1.78	65
Keith Lockhart	atl	atl	3	7	2	4.00	1.33	88
Kelly Stinnett	cin	ari	10	6	5	7.00	2.33	85
Ken Caminiti	tex	hou	20	10	9	13.00	4.33	71
Ken Caminiti	hou	sd	38	26	20	28.00	9.33	102
Ken Ryan	phi	phi	11	0	1	4.00	1.33	75
Kenny Lofton	chw	cle	16	17	13	15.33	5.11	83
Kenny Rogers	tex	nym	2	19	12	11.00	3.67	95
Kent Bottenfield	hou	phi	6	14	7	9.00	3.00	72
Kevin Appier	nym	oak	0	9	11	6.67	2.22	94
Kevin Brown	la	sd	26	23	26	25.00	8.33	83
Kevin Jarvis	sd	sd	0	4	7	3.67	1.22	79
Kevin Jordan	phi	phi	3	7	3	4.33	1.44	65
Kirt Manwaring	col	col	5	4	4	4.33	1.44	77
Lenny Harris	nym	nym	3	2	5	3.33	1.11	94
Lenny Harris	col	nym	10	3	3	5.33	1.78	77
Luis Alicea	kc	kc	1	12	5	6.00	2.00	65
Luis Alicea	kc	tex	9	1	12	7.33	2.44	77
Luis Alicea	tex	tex	14	9	1	8.00	2.67	95
Luis Lopez	mil	mil	5	3	4	4.00	1.33	73
Luis Sojo	nyy	nyy	1	2	6	3.00	1.00	87
Manny Ramirez	bos	cle	25	35	27	29.00	9.67	85
Mark Clark	tex	chc	13	12	7	10.67	3.56	88
Mark Gardner	sf	sf	7	8	9	8.00	2.67	88
Mark Gardner	sf	sf	9	0	8	5.67	1.89	97
Mark Grace	ari	chc	27	21	18	22.00	7.33	85
Mark Guthrie	bos	la	8	1	3	4.00	1.33	92

Appendix A: Continued

Pred Wins w/ FA	Pred Win % w/ FA	Pred Rev w/ FA	Pred Wins w/o FA	Pred Win % w/o FA	Pred Rev w/o FA	Marginal Revenue
89	0.551	\$ 123,766,855.36	82.79	0.511	\$ 117,448,458.47	\$ 6,318,396.89
75	0.464	\$ 138,408,881.64	74.12	0.458	\$ 136,976,271.96	\$ 1,432,609.68
67	0.414	\$ 183,642,029.89	63.35	0.391	\$ 176,558,884.50	\$ 7,083,145.39
93	0.576	\$ 201,069,552.98	92.35	0.570	\$ 199,727,176.64	\$ 1,342,376.34
79	0.485	\$ 79,180,039.87	74.85	0.462	\$ 76,576,661.75	\$ 2,603,378.12
66	0.410	\$ 101,459,282.68	65.30	0.403	\$ 100,269,257.84	\$ 1,190,024.83
80	0.491	\$ 139,586,490.47	76.80	0.474	\$ 136,161,867.23	\$ 3,424,623.24
98	0.606	\$ 156,289,496.73	92.35	0.570	\$ 149,679,541.24	\$ 6,609,955.49
93	0.574	\$ 159,527,151.23	89.15	0.550	\$ 154,836,067.49	\$ 4,691,083.74
76	0.468	\$ 77,290,580.61	70.85	0.437	\$ 73,692,664.22	\$ 3,597,916.39
93	0.573	\$ 128,413,381.14	92.10	0.569	\$ 127,660,407.74	\$ 752,973.41
74	0.454	\$ 115,007,761.98	72.26	0.446	\$ 113,546,909.15	\$ 1,460,852.83
79	0.489	\$ 113,807,816.74	73.40	0.453	\$ 107,830,326.34	\$ 5,977,490.40
97	0.596	\$ 137,578,376.93	90.41	0.558	\$ 131,429,233.07	\$ 6,149,143.86
72	0.443	\$ 166,050,406.36	69.35	0.428	\$ 162,077,060.84	\$ 3,973,345.51
67	0.412	\$ 109,853,064.77	65.30	0.403	\$ 108,185,277.58	\$ 1,667,787.19
89	0.547	\$ 143,280,833.09	86.97	0.537	\$ 141,391,738.56	\$ 1,889,094.53
87	0.539	\$ 97,941,403.20	85.38	0.527	\$ 96,368,743.18	\$ 1,572,660.01
75	0.465	\$ 113,475,045.28	71.29	0.440	\$ 109,226,013.10	\$ 4,249,032.17
111	0.688	\$ 129,879,430.25	102.39	0.632	\$ 122,451,520.02	\$ 7,427,910.23
76	0.469	\$ 130,078,125.05	74.01	0.457	\$ 127,675,524.85	\$ 2,402,600.20
88	0.544	\$ 149,213,528.93	83.28	0.514	\$ 143,506,453.35	\$ 5,707,075.57
99	0.609	\$ 149,284,230.09	95.27	0.588	\$ 145,737,825.25	\$ 3,546,404.84
75	0.463	\$ 116,460,305.77	72.26	0.446	\$ 113,546,909.15	\$ 2,913,396.62
96	0.594	\$ 242,264,511.40	94.29	0.582	\$ 238,928,272.59	\$ 3,336,238.81
91	0.563	\$ 195,776,540.18	83.28	0.514	\$ 183,617,216.29	\$ 12,159,323.89
78	0.481	\$ 85,509,663.26	78.17	0.483	\$ 85,679,747.25	\$ -
65	0.404	\$ 100,388,855.04	63.85	0.394	\$ 98,713,534.58	\$ 1,675,320.46
77	0.476	\$ 131,010,095.00	75.84	0.468	\$ 129,553,740.44	\$ 1,456,354.56
93	0.577	\$ 237,352,197.72	93.18	0.575	\$ 236,956,734.41	\$ 395,463.32
79	0.486	\$ 132,984,342.99	77.28	0.477	\$ 131,273,669.41	\$ 1,710,673.58
65	0.403	\$ 74,614,478.79	63.30	0.391	\$ 73,009,186.44	\$ 1,605,292.34
79	0.490	\$ 87,966,107.78	77.28	0.477	\$ 86,324,210.17	\$ 1,641,897.62
97	0.600	\$ 147,870,208.78	92.60	0.572	\$ 142,874,029.92	\$ 4,996,178.87
73	0.451	\$ 110,928,907.57	72.06	0.445	\$ 109,865,050.26	\$ 1,063,857.32
86	0.534	\$ 205,782,972.22	86.81	0.536	\$ 206,336,542.61	\$ -
95	0.585	\$ 132,438,971.00	85.38	0.527	\$ 123,174,753.70	\$ 9,264,217.30
92	0.565	\$ 152,259,989.60	88.30	0.545	\$ 148,492,258.30	\$ 3,767,731.30
88	0.544	\$ 130,195,976.33	86.12	0.532	\$ 128,122,905.78	\$ 2,073,070.55
96	0.594	\$ 168,281,110.90	95.48	0.589	\$ 167,329,090.70	\$ 952,020.21
92	0.570	\$ 186,481,403.25	85.38	0.527	\$ 176,487,398.63	\$ 9,994,004.61
93	0.576	\$ 150,811,044.83	92.35	0.570	\$ 149,679,541.24	\$ 1,131,503.60

Appendix A: Continued

Name	New Team	Old Team	WS 3 yrs Prior	WS 2 yrs Prior	WS 1 yr Prior	Avg WS	Avg Wins/Year	Ws Prev. Season
Mark Guthrie	oak	tor	3	3	4	3.33	1.11	92
Mark Lewis	cin	cin	9	8	4	7.00	2.33	95
Mark Lewis	cin	phi	11	9	8	9.33	3.11	77
Mark McLemore	sea	sea	15	13	18	15.33	5.11	116
Mark McLemore	sea	tex	5	12	15	10.67	3.56	79
Mark Petkovsek	tex	ana	5	9	7	7.00	2.33	71
Mark Portugal	bos	phi	8	0	10	6.00	2.00	92
Mark Whiten	cle	cle	14	5	6	8.33	2.78	89
Mark Wohlers	cle	nyy	0	2	4	2.00	0.67	91
Marty Cordova	tor	bos	6	8	9	7.67	2.56	84
Marty Cordova	bal	cle	9	1	11	7.00	2.33	63
Matt Stairs	mil	chc	20	10	11	13.67	4.56	68
Midre Cummings	ari	bos	3	1	1	1.67	0.56	85
Miguel Batista	ari	kc	6	6	0	4.00	1.33	85
Mike Benjamin	pit	bos	3	1	8	4.00	1.33	69
Mike Bordick	bal	nym	13	17	16	15.33	5.11	74
Mike Fetters	la	la	4	1	7	4.00	1.33	86
Mike Hampton	col	nym	15	26	19	20.00	6.67	82
Mike Holtz	oak	ana	0	3	2	1.67	0.56	102
Mike Jackson	phi	cle	11	16	11	12.67	4.22	77
Mike Jackson	min	hou	11	0	6	5.67	1.89	85
Mike Jackson	hou	phi	16	11	0	9.00	3.00	72
Mike James	col	stl	0	5	1	2.00	0.67	73
Mike MacFarlane	oak	oak	13	7	5	8.33	2.78	74
Mike Magnante	oak	ana	5	2	7	4.67	1.56	87
Mike Magnante	ana	hou	2	5	2	3.00	1.00	85
Mike Matheny	tor	mil	4	8	4	5.33	1.78	88
Mike Matheny	stl	tor	8	4	3	5.00	1.67	75
Mike Mohler	stl	oak	9	3	2	4.67	1.56	83
Mike Morgan	ari	ari	4	7	2	4.33	1.44	92
Mike Munoz	tex	tex	5	2	5	4.00	1.33	95
Mike Mussina	nyy	bal	15	17	18	16.67	5.56	87
Mike Piazza	nym	nym	33	39	33	35.00	11.67	88
Mike Stanton	nyy	nyy	9	4	4	5.67	1.89	98
Mike Timlin	bal	sea	10	9	12	10.33	3.44	79
Mike Trombley	bal	min	5	9	10	8.00	2.67	78
Mike Williams	pit	hou	5	11	8	8.00	2.67	62
Mo Vaughn	ana	bos	29	22	25	25.33	8.44	85
Moises Alou	chc	hou	0	17	21	12.67	4.22	88
Omar Olivares	oak	oak	8	11	15	11.33	3.78	87
Orel Hershiser	nym	cle	14	11	7	10.67	3.56	88
Orel Hershiser	la	nym	11	7	8	8.67	2.89	77

Appendix A: Continued

Pred Wins w/ FA	Pred Win % w/ FA	Pred Rev w/ FA	Pred Wins w/o FA	Pred Win % w/o FA	Pred Rev w/o FA	Marginal Revenue
93	0.572	\$ 130,985,413.94	91.86	0.567	\$ 130,215,401.75	\$ 770,012.19
96	0.595	\$ 113,764,973.66	93.42	0.577	\$ 111,278,619.29	\$ 2,486,354.37
80	0.494	\$ 106,743,945.16	77.28	0.477	\$ 104,141,065.47	\$ 2,602,879.69
115	0.711	\$ 138,730,020.69	111.21	0.687	\$ 135,436,442.64	\$ 3,293,578.05
83	0.510	\$ 128,170,462.41	79.39	0.490	\$ 124,654,698.66	\$ 3,515,763.75
73	0.452	\$ 111,359,433.14	71.29	0.440	\$ 109,226,013.10	\$ 2,133,420.04
94	0.580	\$ 151,563,102.74	92.35	0.570	\$ 149,679,541.24	\$ 1,883,561.50
90	0.554	\$ 159,882,105.50	86.49	0.534	\$ 155,845,687.93	\$ 4,036,417.57
92	0.566	\$ 126,800,699.94	91.38	0.564	\$ 126,478,044.57	\$ 322,655.38
87	0.535	\$ 91,109,070.59	84.41	0.521	\$ 89,468,833.37	\$ 1,640,237.22
66	0.405	\$ 117,287,178.70	63.68	0.393	\$ 114,778,473.81	\$ 2,508,704.89
73	0.448	\$ 102,409,266.42	68.37	0.422	\$ 98,208,058.43	\$ 4,201,207.99
86	0.528	\$ 176,808,836.26	85.38	0.527	\$ 176,487,398.63	\$ 321,437.63
86	0.533	\$ 177,930,213.76	85.38	0.527	\$ 176,487,398.63	\$ 1,442,815.13
70	0.434	\$ 92,667,287.78	69.35	0.428	\$ 91,744,171.79	\$ 923,115.99
79	0.489	\$ 137,990,651.02	74.37	0.459	\$ 132,113,024.05	\$ 5,877,626.97
85	0.525	\$ 160,964,753.75	85.02	0.525	\$ 160,964,312.62	\$ 441.13
89	0.547	\$ 119,149,486.26	82.31	0.508	\$ 113,132,141.36	\$ 6,017,344.90
103	0.633	\$ 136,444,382.20	102.39	0.632	\$ 136,237,459.11	\$ 206,923.08
81	0.501	\$ 126,978,345.31	77.28	0.477	\$ 122,694,262.17	\$ 4,284,083.14
87	0.537	\$ 121,087,236.04	85.38	0.527	\$ 119,568,346.15	\$ 1,518,889.89
75	0.463	\$ 116,460,305.77	72.26	0.446	\$ 113,546,909.15	\$ 2,913,396.62
74	0.455	\$ 99,967,359.49	73.40	0.453	\$ 99,650,900.74	\$ 316,458.75
75	0.464	\$ 131,546,052.08	71.59	0.442	\$ 127,163,187.56	\$ 4,382,864.52
89	0.547	\$ 137,846,897.62	87.33	0.539	\$ 136,513,768.35	\$ 1,333,129.26
86	0.531	\$ 178,983,535.09	85.38	0.527	\$ 178,012,617.77	\$ 970,917.32
90	0.554	\$ 100,826,919.61	88.30	0.545	\$ 99,689,507.87	\$ 1,137,411.75
77	0.476	\$ 97,223,606.72	75.83	0.468	\$ 96,045,845.48	\$ 1,177,761.24
84	0.522	\$ 110,450,684.29	83.28	0.514	\$ 109,331,196.58	\$ 1,119,487.71
93	0.573	\$ 200,399,100.39	90.90	0.561	\$ 197,538,306.23	\$ 2,860,794.15
95	0.584	\$ 145,024,520.79	93.93	0.580	\$ 144,308,986.52	\$ 715,534.27
93	0.574	\$ 216,566,588.15	87.81	0.542	\$ 207,995,089.66	\$ 8,571,498.48
89	0.547	\$ 214,739,777.94	76.63	0.473	\$ 193,975,789.72	\$ 20,763,988.23
99	0.608	\$ 242,216,440.89	96.45	0.595	\$ 238,577,665.51	\$ 3,638,775.38
83	0.509	\$ 165,755,863.85	79.39	0.490	\$ 161,360,854.61	\$ 4,395,009.24
81	0.497	\$ 152,045,090.71	78.26	0.483	\$ 148,953,827.26	\$ 3,091,263.45
65	0.399	\$ 98,424,383.88	62.38	0.385	\$ 95,929,637.36	\$ 2,494,746.52
93	0.577	\$ 189,671,474.58	85.38	0.527	\$ 178,012,617.77	\$ 11,658,856.81
92	0.569	\$ 134,646,016.72	88.30	0.545	\$ 130,649,634.73	\$ 3,996,381.99
86	0.529	\$ 134,809,735.25	83.55	0.516	\$ 132,358,273.08	\$ 2,451,462.16
92	0.565	\$ 219,608,667.09	88.30	0.545	\$ 214,174,367.18	\$ 5,434,299.91
80	0.493	\$ 166,965,014.35	77.28	0.477	\$ 163,210,481.64	\$ 3,754,532.71

Appendix A: Continued

Name	New Team	Old Team	WS 3 yrs Prior	WS 2 yrs Prior	WS 1 yr Prior	Avg WS	Avg Wins/Year	Ws Prev. Season
Orlando Merced	hou	hou	5	0	4	3.00	1.00	93
Otis Nixon	atl	min	12	13	8	11.00	3.67	106
Ozzie Guillen	atl	atl	7	10	7	8.00	2.67	106
Pat Hentgen	bal	stl	8	10	10	9.33	3.11	74
Pat Mahomes	tex	nym	0	7	2	3.00	1.00	71
Pat Meares	pit	min	8	13	11	10.67	3.56	69
Pat Rapp	bal	bos	4	9	9	7.33	2.44	78
Pat Rapp	ana	col	9	9	4	7.33	2.44	82
Pat Rapp	bos	kc	3	4	9	5.33	1.78	92
Paul O'Neill	nyy	nyy	26	16	13	18.33	6.11	87
Pedro Astacio	nym	hou	19	11	7	12.33	4.11	82
Pete Schourek	pit	bos	1	1	5	2.33	0.78	69
Pete Schourek	bos	pit	1	5	3	3.00	1.00	94
Rafael Palmiero	tex	bal	30	18	24	24.00	8.00	88
Ramon Martinez	la	bos	8	2	4	4.67	1.56	86
Ramon Martinez	bos	la	12	8	8	9.33	3.11	92
Randy Johnson	ari	hou	5	23	20	16.00	5.33	65
Randy Velarde	ana	ana	17	0	8	8.33	2.78	85
Randy Velarde	oak	nyy	24	14	7	15.00	5.00	102
Randy Velarde	oak	oak	0	8	24	10.67	3.56	87
Reggie Sanders	sf	ari	19	6	14	13.00	4.33	90
Reggie Sanders	ari	atl	14	19	6	13.00	4.33	85
Rey Sanchez	kc	kc	7	8	12	9.00	3.00	64
Rey Sanchez	kc	sf	5	7	8	6.67	2.22	72
Rheal Cormier	phi	bos	0	5	4	3.00	1.00	65
Rich Amaral	bal	sea	7	1	2	3.33	1.11	79
Rich Becker	mil	bal	20	12	5	12.33	4.11	74
Rich Becker	oak	oak	12	5	7	8.00	2.67	87
Rich Rodriguez	nym	sf	6	5	3	4.67	1.56	96
Rick Helling	ari	tex	12	15	7	11.33	3.78	92
Rick Reed	nym	nym	16	8	11	11.67	3.89	94
Rickey Henderson	nym	oak	16	15	20	17.00	5.67	88
Ricky Bottalico	phi	kc	0	4	8	4.00	1.33	65
Ricky Bottalico	phi	phi	4	8	6	6.00	2.00	86
Ricky Bottalico	kc	stl	10	0	4	4.67	1.56	64
Ricky Gutierrez	cle	chc	6	15	16	12.33	4.11	91
Ricky Gutierrez	chc	hou	4	12	6	7.33	2.44	67
Rico Brogna	atl	bos	15	13	2	10.00	3.33	95
Rob Ducey	phi	phi	2	4	7	4.33	1.44	77
Rob Ducey	phi	sea	0	2	4	2.00	0.67	75
Robert Fick	det	det	2	4	10	5.33	1.78	66
Roberto Alomar	cle	bal	31	21	19	23.67	7.89	89

Appendix A: Continued

Pred Wins w/ FA	Pred Win % w/ FA	Pred Rev w/ FA	Pred Wins w/o FA	Pred Win % w/o FA	Pred Rev w/o FA	Marginal Revenue
93	0.572	\$ 128,198,532.40	92.32	0.570	\$ 127,875,645.50	\$ 322,886.91
110	0.677	\$ 203,377,904.68	106.28	0.656	\$ 199,034,270.95	\$ 4,343,633.72
106	0.656	\$ 199,034,707.31	103.61	0.640	\$ 195,530,126.68	\$ 3,504,580.63
77	0.476	\$ 135,543,794.42	74.37	0.459	\$ 132,113,024.05	\$ 3,430,770.36
72	0.444	\$ 109,939,368.76	71.29	0.440	\$ 109,226,013.10	\$ 713,355.65
73	0.448	\$ 94,703,969.40	69.35	0.428	\$ 91,744,171.79	\$ 2,959,797.61
80	0.496	\$ 151,751,898.44	78.26	0.483	\$ 148,953,827.26	\$ 2,798,071.18
84	0.521	\$ 153,860,462.68	82.31	0.508	\$ 151,160,141.45	\$ 2,700,321.23
94	0.579	\$ 151,312,595.66	92.35	0.570	\$ 149,679,541.24	\$ 1,633,054.42
89	0.551	\$ 210,381,320.54	81.70	0.504	\$ 197,767,649.87	\$ 12,613,670.67
86	0.531	\$ 207,632,516.53	82.31	0.508	\$ 201,219,637.48	\$ 6,412,879.05
70	0.431	\$ 92,155,107.95	69.35	0.428	\$ 91,744,171.79	\$ 410,936.15
95	0.586	\$ 143,386,483.43	94.29	0.582	\$ 142,681,725.83	\$ 704,757.59
96	0.592	\$ 157,391,509.46	88.30	0.545	\$ 148,492,258.30	\$ 8,899,251.16
88	0.541	\$ 164,331,631.18	86.36	0.533	\$ 162,724,689.50	\$ 1,606,941.68
95	0.587	\$ 152,812,976.70	92.35	0.570	\$ 149,679,541.24	\$ 3,133,435.46
70	0.434	\$ 205,053,185.04	65.30	0.403	\$ 194,744,635.57	\$ 10,308,549.47
85	0.526	\$ 177,689,120.12	82.61	0.510	\$ 173,944,302.49	\$ 3,744,817.63
107	0.661	\$ 140,548,863.77	102.39	0.632	\$ 136,237,459.11	\$ 4,311,404.66
83	0.510	\$ 131,249,263.08	83.77	0.517	\$ 132,604,258.11	\$ -
94	0.583	\$ 156,898,664.29	90.41	0.558	\$ 152,221,123.19	\$ 4,677,541.10
89	0.552	\$ 182,227,409.16	85.38	0.527	\$ 176,487,398.63	\$ 5,740,010.53
63	0.392	\$ 81,453,993.16	61.81	0.382	\$ 79,952,727.92	\$ 1,501,265.24
75	0.461	\$ 97,273,236.44	72.75	0.449	\$ 95,545,479.94	\$ 1,727,756.50
66	0.407	\$ 100,984,140.36	65.30	0.403	\$ 100,269,257.84	\$ 714,882.52
80	0.495	\$ 162,464,748.43	79.39	0.490	\$ 161,360,854.61	\$ 1,103,893.82
78	0.482	\$ 84,177,806.71	74.37	0.459	\$ 81,311,828.94	\$ 2,865,977.77
87	0.539	\$ 136,514,132.60	84.66	0.523	\$ 133,586,241.73	\$ 2,927,890.87
98	0.605	\$ 215,801,307.49	96.72	0.597	\$ 213,914,864.87	\$ 1,886,442.62
96	0.591	\$ 204,906,181.84	92.35	0.570	\$ 199,727,176.64	\$ 5,179,005.20
94	0.581	\$ 238,732,025.27	90.40	0.558	\$ 231,996,631.00	\$ 6,735,394.27
94	0.578	\$ 223,137,475.39	88.30	0.545	\$ 214,174,367.18	\$ 8,963,108.21
66	0.409	\$ 101,340,587.07	65.30	0.403	\$ 100,269,257.84	\$ 1,071,329.22
86	0.531	\$ 117,808,700.60	84.36	0.521	\$ 116,208,166.01	\$ 1,600,534.59
66	0.408	\$ 83,732,656.58	64.81	0.400	\$ 82,645,939.91	\$ 1,086,716.67
95	0.587	\$ 130,111,133.38	91.38	0.564	\$ 126,478,044.57	\$ 3,633,088.81
70	0.429	\$ 121,649,824.10	67.40	0.416	\$ 119,054,915.90	\$ 2,594,908.19
98	0.607	\$ 164,495,848.72	95.27	0.588	\$ 160,968,664.97	\$ 3,527,183.74
76	0.470	\$ 121,335,018.13	75.84	0.468	\$ 121,086,739.38	\$ 248,278.75
76	0.467	\$ 129,679,092.42	75.34	0.465	\$ 129,279,130.57	\$ 399,961.86
64	0.397	\$ 125,015,064.06	64.49	0.398	\$ 125,165,394.98	\$ -
97	0.598	\$ 168,638,300.97	89.27	0.551	\$ 159,327,626.77	\$ 9,310,674.21

Appendix A: Continued

Name	New Team	Old Team	WS 3 yrs Prior	WS 2 yrs Prior	WS 1 yr Prior	Avg WS	Avg Wins/Year	Ws Prev. Season
Robin Ventura	nym	chw	20	8	21	16.33	5.44	88
Rod Beck	chc	chc	10	12	13	11.67	3.89	89
Roger Cedeno	nym	det	17	5	14	12.00	4.00	82
Ron Coomer	chc	min	6	8	9	7.67	2.56	65
Ron Gant	col	col	11	16	7	11.33	3.78	82
Ron Gant	sd	oak	16	7	4	9.00	3.00	79
Rondell White	nyy	chc	15	14	12	13.67	4.56	96
Royce Clayton	tex	tex	12	13	12	12.33	4.11	88
Rudy Seanez	atl	atl	0	5	7	4.00	1.33	103
Sandy Alomar Jr	chw	cle	6	4	8	6.00	2.00	95
Scott Brosius	nyy	nyy	19	5	27	17.00	5.67	114
Scott Kamieniecki	cle	bal	12	0	3	5.00	1.67	97
Scott Karl	sd	ana	8	9	1	6.00	2.00	76
Scott Radinsky	stl	la	6	8	8	7.33	2.44	83
Scott Sanders	chc	sd	10	4	1	5.00	1.67	89
Scott Service	oak	kc	1	11	3	5.00	1.67	87
Scott Spiezio	ana	oak	10	10	6	8.67	2.89	70
Sean Berry	mil	hou	19	5	12	12.00	4.00	74
Shawon Dunston	stl	sf	8	11	3	7.33	2.44	83
Shawon Dunston	sf	stl	2	4	4	3.33	1.11	97
Shigetoshi Hasegawa	sea	ana	5	11	5	7.00	2.33	116
Stan Javier	sea	hou	17	12	8	12.33	4.11	79
Steve Avery	cin	bos	7	1	5	4.33	1.44	77
Steve Finley	ari	sd	27	19	15	20.33	6.78	65
Steve Karsay	nyy	atl	9	11	11	10.33	3.44	96
Steve Reed	sd	atl	4	4	5	4.33	1.44	79
Steve Trachsel	tb	chc	9	13	6	9.33	3.11	69
Steve Trachsel	nym	tor	13	6	11	10.00	3.33	94
T.J. Mathews	hou	stl	10	2	2	4.67	1.56	93
Terry Adams	phi	la	9	6	8	7.67	2.56	86
Terry Mulholland	pit	atl	12	11	7	10.00	3.33	69
Terry Mulholland	chc	chc	4	8	12	8.00	2.67	89
Terry Shumpert	col	col	1	0	10	3.67	1.22	72
Terry Steinbach	min	min	18	7	10	11.67	3.89	70
Thomas Howard	stl	stl	3	1	4	2.67	0.89	75
Tim Belcher	ana	ana	17	1	1	6.33	2.11	82
Tim Belcher	ana	kc	19	9	17	15.00	5.00	85
Tim Bogar	hou	hou	1	7	3	3.67	1.22	102
Tim Raines	oak	nyy	7	9	11	9.00	3.00	74
Tim Wakefield	bos	bos	11	8	5	8.00	2.67	85
Tim Worrell	chc	chc	2	4	7	4.33	1.44	65
Tino Martinez	stl	nyy	19	12	21	17.33	5.78	93

Appendix A: Continued

Pred Wins w/ FA	Pred Win % w/ FA	Pred Rev w/ FA	Pred Wins w/o FA	Pred Win % w/o FA	Pred Rev w/o FA	Marginal Revenue
93	0.577	\$ 222,767,158.06	88.30	0.545	\$ 214,174,367.18	\$ 8,592,790.88
89	0.549	\$ 153,197,305.87	85.87	0.530	\$ 149,432,663.09	\$ 3,764,642.78
86	0.531	\$ 207,445,144.19	82.31	0.508	\$ 201,219,637.48	\$ 6,225,506.71
68	0.417	\$ 110,746,392.10	65.30	0.403	\$ 108,185,277.58	\$ 2,561,114.53
83	0.515	\$ 114,197,891.45	78.53	0.485	\$ 109,476,758.22	\$ 4,721,133.23
82	0.507	\$ 88,637,824.29	79.39	0.490	\$ 86,614,025.11	\$ 2,023,799.18
101	0.622	\$ 224,213,715.87	96.56	0.596	\$ 217,605,039.97	\$ 6,608,675.89
88	0.544	\$ 148,231,322.21	84.19	0.520	\$ 143,624,953.77	\$ 4,606,368.44
102	0.630	\$ 194,701,104.12	102.03	0.630	\$ 194,700,659.49	\$ 444.63
97	0.598	\$ 164,159,170.81	95.27	0.588	\$ 162,180,603.82	\$ 1,978,566.99
111	0.683	\$ 277,839,259.42	108.71	0.671	\$ 274,320,694.32	\$ 3,518,565.10
99	0.609	\$ 154,942,009.33	97.37	0.601	\$ 153,475,609.55	\$ 1,466,399.78
78	0.481	\$ 89,581,454.40	76.31	0.471	\$ 88,238,454.91	\$ 1,342,999.49
85	0.527	\$ 111,261,575.69	83.28	0.514	\$ 109,331,196.58	\$ 1,930,379.11
91	0.562	\$ 155,729,054.12	89.76	0.554	\$ 154,131,736.72	\$ 1,597,317.40
89	0.547	\$ 137,967,782.59	87.33	0.539	\$ 136,513,768.35	\$ 1,454,014.24
73	0.450	\$ 149,890,350.37	70.32	0.434	\$ 146,195,834.51	\$ 3,694,515.86
78	0.482	\$ 84,094,124.63	74.37	0.459	\$ 81,311,828.94	\$ 2,782,295.69
85	0.527	\$ 111,261,575.69	83.28	0.514	\$ 109,331,196.58	\$ 1,930,379.11
98	0.606	\$ 170,582,592.61	97.37	0.601	\$ 169,636,146.76	\$ 946,445.85
118	0.730	\$ 141,433,440.54	116.33	0.718	\$ 139,757,824.21	\$ 1,675,616.34
83	0.513	\$ 128,772,359.66	79.39	0.490	\$ 124,654,698.66	\$ 4,117,661.00
78	0.484	\$ 105,185,729.99	77.28	0.477	\$ 104,141,065.47	\$ 1,044,664.53
72	0.443	\$ 207,989,440.52	65.30	0.403	\$ 194,744,635.57	\$ 13,244,804.96
100	0.615	\$ 222,482,944.92	96.56	0.596	\$ 217,605,039.97	\$ 4,877,904.95
81	0.497	\$ 87,459,871.27	79.39	0.490	\$ 86,614,025.11	\$ 845,846.15
72	0.445	\$ 166,588,972.81	69.35	0.428	\$ 162,077,060.84	\$ 4,511,911.97
97	0.601	\$ 244,217,441.72	94.29	0.582	\$ 238,928,272.59	\$ 5,289,169.13
95	0.584	\$ 130,019,849.52	93.32	0.576	\$ 128,842,293.40	\$ 1,177,556.13
89	0.547	\$ 120,244,368.22	86.36	0.533	\$ 118,127,300.46	\$ 2,117,067.75
72	0.447	\$ 114,465,587.08	69.35	0.428	\$ 111,126,160.67	\$ 3,339,426.41
88	0.544	\$ 152,125,910.35	87.09	0.538	\$ 150,916,288.99	\$ 1,209,621.36
70	0.431	\$ 111,636,314.01	71.04	0.439	\$ 112,998,467.83	\$ -
71	0.435	\$ 126,130,336.36	66.43	0.410	\$ 120,945,213.54	\$ 5,185,122.82
75	0.463	\$ 95,356,408.91	74.94	0.463	\$ 95,257,404.38	\$ 99,004.53
84	0.517	\$ 153,010,083.67	80.19	0.495	\$ 148,439,317.76	\$ 4,570,765.92
90	0.556	\$ 184,759,434.61	85.38	0.527	\$ 178,012,617.77	\$ 6,746,816.84
103	0.638	\$ 123,193,897.12	102.39	0.632	\$ 122,451,520.02	\$ 742,377.10
77	0.476	\$ 133,848,773.55	74.37	0.459	\$ 130,592,412.68	\$ 3,256,360.87
86	0.531	\$ 123,846,574.07	82.72	0.511	\$ 120,472,851.01	\$ 3,373,723.06
64	0.396	\$ 106,766,097.53	63.85	0.394	\$ 106,506,733.66	\$ 259,363.87
99	0.610	\$ 103,860,776.26	93.32	0.576	\$ 99,824,435.11	\$ 4,036,341.15

Appendix A: Continued

Name	New Team	Old Team	WS 3 yrs Prior	WS 2 yrs Prior	WS 1 yr Prior	Avg WS	Avg Wins/Year	Ws Prev. Season
Todd Hollandsworth	col	col	6	7	8	7.00	2.33	82
Todd Hundley	chc	la	1	6	17	8.00	2.67	65
Todd Jones	col	min	10	10	5	8.33	2.78	73
Todd Pratt	phi	phi	5	5	2	4.00	1.33	86
Todd Stottlemire	ari	tex	14	11	14	13.00	4.33	65
Todd Van Poppel	tex	chc	0	6	8	4.67	1.56	73
Todd Zeile	nym	tex	18	21	19	19.33	6.44	96
Tom Candiotti	cle	oak	4	8	8	6.67	2.22	89
Tom Goodwin	col	tex	9	13	5	9.00	3.00	72
Tom Gordon	chc	bos	17	2	0	6.33	2.11	65
Tom Lampkin	sea	sea	5	7	3	5.00	1.67	91
Tom Lampkin	sea	stl	6	5	5	5.33	1.78	76
Tom Prince	phi	la	3	3	2	2.67	0.89	75
Tony Eusebio	hou	hou	4	5	10	6.33	2.11	97
Tony Gwynn	sd	sd	19	18	3	13.33	4.44	76
Tony Phillips	oak	nym	21	18	7	15.33	5.11	74
Turk Wendell	nym	nym	10	9	8	9.00	3.00	94
Tyler Houston	mil	cle	4	7	3	4.67	1.56	75
Vinny Castilla	atl	hou	11	3	13	9.00	3.00	88
Wally Joyner	sd	sd	16	21	22	19.67	6.56	98
Wilfredo Cordero	pit	cle	11	8	5	8.00	2.67	78
Will Clark	bal	tex	11	14	19	14.67	4.89	79
Willie Greene	tor	bal	11	17	14	14.00	4.67	88
Willie Greene	chc	tor	17	14	2	11.00	3.67	67
Willie McGee	stl	stl	9	7	3	6.33	2.11	83
Wilton Guerrero	cin	mon	7	7	2	5.33	1.78	85

Appendix A: Continued

Pred Wins w/ FA	Pred Win % w/ FA	Pred Rev w/ FA	Pred Wins w/o FA	Pred Win % w/o FA	Pred Rev w/o FA	Marginal Revenue
82	0.504	\$ 112,491,126.36	79.97	0.494	\$ 110,880,523.06	\$ 1,610,603.31
68	0.417	\$ 110,873,756.80	65.30	0.403	\$ 108,185,277.58	\$ 2,688,479.22
76	0.468	\$ 101,959,713.92	73.40	0.453	\$ 99,650,900.74	\$ 2,308,813.18
87	0.535	\$ 118,446,167.49	85.02	0.525	\$ 116,849,383.95	\$ 1,596,783.54
69	0.428	\$ 203,009,750.39	65.30	0.403	\$ 194,744,635.57	\$ 8,265,114.83
75	0.461	\$ 109,082,737.68	73.40	0.453	\$ 107,830,326.34	\$ 1,252,411.34
103	0.635	\$ 223,275,430.32	96.72	0.597	\$ 213,914,864.87	\$ 9,360,565.45
91	0.563	\$ 161,677,135.86	89.27	0.551	\$ 159,327,626.77	\$ 2,349,509.10
75	0.463	\$ 117,288,060.18	72.26	0.446	\$ 114,353,956.27	\$ 2,934,103.91
67	0.414	\$ 110,236,300.95	65.30	0.403	\$ 108,185,277.58	\$ 2,051,023.37
92	0.566	\$ 123,979,862.10	89.71	0.554	\$ 122,083,345.36	\$ 1,896,516.74
78	0.483	\$ 137,947,438.17	76.80	0.474	\$ 136,161,867.23	\$ 1,785,570.94
76	0.468	\$ 129,945,172.81	75.34	0.465	\$ 129,279,130.57	\$ 666,042.24
96	0.591	\$ 156,598,777.97	95.26	0.588	\$ 155,963,146.36	\$ 635,631.62
79	0.490	\$ 90,738,179.94	71.87	0.444	\$ 84,613,830.70	\$ 6,124,349.24
79	0.489	\$ 136,402,388.59	74.37	0.459	\$ 130,592,412.68	\$ 5,809,975.91
94	0.582	\$ 238,928,863.00	91.29	0.564	\$ 233,588,791.28	\$ 5,340,071.72
76	0.470	\$ 77,448,790.74	74.85	0.462	\$ 76,576,661.75	\$ 872,128.99
91	0.562	\$ 145,907,183.39	88.30	0.545	\$ 142,903,574.04	\$ 3,003,609.35
97	0.600	\$ 130,239,199.69	91.79	0.567	\$ 125,097,182.85	\$ 5,142,016.84
81	0.500	\$ 96,192,318.67	78.74	0.486	\$ 94,248,385.98	\$ 1,943,932.69
84	0.518	\$ 167,779,173.92	79.39	0.490	\$ 161,360,854.61	\$ 6,418,319.31
93	0.572	\$ 103,084,842.64	88.30	0.545	\$ 99,689,507.87	\$ 3,395,334.78
71	0.437	\$ 123,141,049.46	67.40	0.416	\$ 119,054,915.90	\$ 4,086,133.55
84	0.519	\$ 110,044,276.46	81.17	0.501	\$ 107,386,336.20	\$ 2,657,940.25
87	0.536	\$ 97,505,722.95	85.38	0.527	\$ 96,368,743.18	\$ 1,136,979.76

Appendix B: Nash Predicted Salary w/ 3% Player Rate

Name	Marginal Revenue	New Salary	Old Salary	Nash Salary	Diff between Nash and Real	Pct Error
Aaron Sele	\$5,102,312.30	\$7,166,667.00	\$7,000,000.00	\$6,051,156.15	(\$1,115,510.85)	15.57
Aaron Sele	\$3,756,668.40	\$7,500,000.00	\$5,525,000.00	\$4,640,834.20	(\$2,859,165.80)	38.12
Al Leiter	\$5,343,345.51	\$5,250,000.00	\$3,000,000.00	\$4,171,672.75	(\$1,078,327.25)	20.54
Alan Embree	\$677,010.24	\$500,000.00	\$2,400,000.00	\$1,538,505.12	\$1,038,505.12	207.70
Alan Mills	\$1,709,598.47	\$1,250,000.00	\$1,000,000.00	\$1,354,799.24	\$104,799.24	8.38
Albert Belle	\$12,884,884.82	\$11,949,794.00	\$10,000,000.00	\$11,442,442.41	(\$507,351.59)	4.25
Albie Lopez	\$2,754,361.71	\$4,000,000.00	\$2,975,000.00	\$2,864,680.85	(\$1,135,319.15)	28.38
Alex Arias	\$1,075,150.03	\$550,000.00	\$550,000.00	\$812,575.02	\$262,575.02	47.74
Alex Cora	\$428,776.61	\$625,000.00	\$240,000.00	\$334,388.31	(\$290,611.69)	46.50
Alex Gonzalez	\$1,217,735.69	\$4,250,000.00	\$295,000.00	\$756,367.85	(\$3,493,632.15)	82.20
Alex Rodriguez	\$10,153,614.33	\$22,000,000.00	\$4,362,500.00	\$7,258,057.16	(\$14,741,942.84)	67.01
Allen Watson	\$2,818,433.93	\$200,000.00	\$2,900,000.00	\$2,859,216.96	\$2,659,216.96	1329.61
Allen Watson	\$2,301,934.16	\$1,300,000.00	\$200,000.00	\$1,250,967.08	(\$49,032.92)	3.77
Alvin Morman	\$306.03	\$365,000.00	\$220,000.00	\$110,153.01	(\$254,846.99)	69.82
Andres Galarraga	\$4,716,859.49	\$6,000,000.00	\$8,500,000.00	\$6,608,429.74	\$608,429.74	10.14
Andy Ashby	\$4,799,864.51	\$6,000,000.00	\$5,900,000.00	\$5,349,932.26	(\$650,067.74)	10.83
Andy Benes	\$1,861,786.71	\$2,867,542.00	\$6,000,000.00	\$3,930,893.35	\$1,063,351.35	37.08
Armando Reynoso	\$2,581,354.47	\$2,000,000.00	\$3,375,000.00	\$2,978,177.23	\$978,177.23	48.91
Armando Reynoso	\$3,921,778.58	\$1,625,000.00	\$1,250,000.00	\$2,585,889.29	\$960,889.29	59.13
Arthur Rhodes	\$1,945,096.53	\$2,750,000.00	\$2,200,000.00	\$2,072,548.26	(\$677,451.74)	24.63
Benito Santiago	\$1,710,997.63	\$2,044,168.00	\$500,000.00	\$1,105,498.81	(\$938,669.19)	45.92
Benito Santiago	\$3,451,524.01	\$1,700,000.00	\$4,000,000.00	\$3,725,762.00	\$2,025,762.00	119.16
Bernie Williams	\$13,682,663.13	\$9,857,143.00	\$8,300,000.00	\$10,991,331.56	\$1,134,188.56	11.51
Bill Haselman	\$883,200.84	\$650,000.00	\$625,000.00	\$754,100.42	\$104,100.42	16.02
BJ Surhoff	\$8,921,507.92	\$3,705,516.00	\$1,716,667.00	\$5,319,087.46	\$1,613,571.46	43.55
Bobby Bonilla	\$678,213.37	\$900,000.00	\$200,000.00	\$439,106.68	(\$460,893.32)	51.21
Bobby Jones	\$1,164,471.57	\$625,000.00	\$5,366,667.00	\$3,265,569.29	\$2,640,569.29	422.49
Brent Mayne	\$3,055,654.33	\$1,750,000.00	\$750,000.00	\$1,902,827.17	\$152,827.17	8.73
Bret Boone	\$4,899,094.13	\$3,250,000.00	\$3,750,000.00	\$4,324,547.06	\$1,074,547.06	33.06
Brian Bohanon	\$1,972,951.60	\$2,110,000.00	\$350,000.00	\$1,161,475.80	(\$948,524.20)	44.95
Brian Hunter	\$3,298,592.80	\$300,000.00	\$375,000.00	\$1,836,796.40	\$1,536,796.40	512.27
Brian Johnson	\$1,185,180.59	\$550,000.00	\$775,000.00	\$980,090.29	\$430,090.29	78.20
Brian Jordan	\$6,643,723.89	\$4,600,000.00	\$3,700,000.00	\$5,171,861.94	\$571,861.94	12.43
Brian L. Hunter	\$1,664,210.96	\$900,000.00	\$300,000.00	\$982,105.48	\$82,105.48	9.12
Brian L. Hunter	\$1,070,724.89	\$1,000,000.00	\$900,000.00	\$985,362.45	(\$14,637.55)	1.46
Brian Williams	\$411,677.39	\$600,000.00	\$375,000.00	\$393,338.70	(\$206,661.30)	34.44
Buddy Groom	\$1,033,760.19	\$1,750,000.00	\$850,000.00	\$941,880.09	(\$808,119.91)	46.18
Butch Henry	\$825,576.59	\$1,500,000.00	\$1,367,500.00	\$1,096,538.30	(\$403,461.70)	26.90
Cal Eldred	\$0.00	\$750,000.00	\$5,400,000.00	\$2,700,000.00	\$1,950,000.00	260.00
Cal Ripken Jr	\$5,414,961.39	\$6,300,000.00	\$6,300,000.00	\$5,857,480.70	(\$442,519.30)	7.02
Carlos Hernandez	\$498,199.80	\$210,000.00	\$3,500,000.00	\$1,999,099.90	\$1,789,099.90	851.95
Carlos Hernandez	\$0.00	\$1,250,000.00	\$700,000.00	\$350,000.00	(\$900,000.00)	72.00

Appendix B: Continued

Name	Marginal Revenue	New Salary	Old Salary	Nash Salary	Diff between Nash and Real	Pct Error
Chad Kreuter	\$1,221,063.16	\$875,000.00	\$710,000.00	\$965,531.58	\$90,531.58	10.35
Chad Krueter	\$1,178,176.87	\$900,000.00	\$500,000.00	\$839,088.43	(\$60,911.57)	6.77
Chan Ho Park	\$4,187,600.09	\$6,884,803.00	\$9,900,000.00	\$7,043,800.05	\$158,997.05	2.31
Charles Johnson	\$2,873,617.77	\$5,000,000.00	\$4,600,000.00	\$3,736,808.88	(\$1,263,191.12)	25.26
Chris Gomez	\$460,368.04	\$1,000,000.00	\$3,000,000.00	\$1,730,184.02	\$730,184.02	73.02
Chris Stynes	\$2,290,133.25	\$1,250,000.00	\$1,300,000.00	\$1,795,066.63	\$545,066.63	43.61
Chuck Finley	\$4,743,379.51	\$7,911,948.00	\$5,800,000.00	\$5,271,689.75	(\$2,640,258.25)	33.37
Chuck Knoblauch	\$3,775,913.85	\$2,000,000.00	\$6,000,000.00	\$4,887,956.92	\$2,887,956.92	144.40
Craig Grebeck	\$0.00	\$550,000.00	\$415,000.00	\$207,500.00	(\$342,500.00)	62.27
Craig Grebeck	\$1,787,492.91	\$700,000.00	\$800,000.00	\$1,293,746.46	\$593,746.46	84.82
Craig Paquette	\$3,271,809.73	\$2,125,000.00	\$1,500,000.00	\$2,385,904.86	\$260,904.86	12.28
Dan Miceli	\$1,025,224.31	\$1,000,000.00	\$2,000,000.00	\$1,512,612.15	\$512,612.15	51.26
Dan Plesac	\$754,107.05	\$2,200,000.00	\$1,500,000.00	\$1,127,053.52	(\$1,072,946.48)	48.77
Dan Wilson	\$5,401,016.25	\$4,000,000.00	\$3,625,000.00	\$4,513,008.12	\$513,008.12	12.83
Danny Bautista	\$2,867,073.91	\$2,000,000.00	\$675,000.00	\$1,771,036.96	(\$228,963.04)	11.45
Danny Graves	\$5,009,591.94	\$3,525,000.00	\$2,100,000.00	\$3,554,795.97	\$29,795.97	0.85
Darren Bragg	\$2,940,429.99	\$800,000.00	\$367,500.00	\$1,653,964.99	\$853,964.99	106.75
Darren Bragg	\$3,177,150.59	\$750,000.00	\$800,000.00	\$1,988,575.30	\$1,238,575.30	165.14
Darren Dreifort	\$3,239,251.71	\$9,400,000.00	\$3,700,000.00	\$3,469,625.86	(\$5,930,374.14)	63.09
Darren Lewis	\$254,666.35	\$2,100,000.00	\$500,000.00	\$377,333.17	(\$1,722,666.83)	82.03
Darren Lewis	\$1,376,271.22	\$500,000.00	\$2,500,000.00	\$1,938,135.61	\$1,438,135.61	287.63
Darren Oliver	\$3,075,707.61	\$5,000,000.00	\$3,550,000.00	\$3,312,853.81	(\$1,687,146.19)	33.74
Darrin Fletcher	\$2,363,586.34	\$3,525,000.00	\$2,500,000.00	\$2,431,793.17	(\$1,093,206.83)	31.01
Darryl Hamilton	\$4,011,246.15	\$3,613,333.00	\$2,750,000.00	\$3,380,623.08	(\$232,709.92)	6.44
Darryl Kile	\$1,542,595.83	\$6,666,667.00	\$7,417,981.00	\$4,480,288.41	(\$2,186,378.59)	32.80
Dave Burba	\$3,175,361.04	\$2,000,000.00	\$5,000,000.00	\$4,087,680.52	\$2,087,680.52	104.38
Dave Hansen	\$987,208.39	\$475,000.00	\$450,000.00	\$718,604.19	\$243,604.19	51.29
Dave Hansen	\$0.00	\$625,000.00	\$475,000.00	\$237,500.00	(\$387,500.00)	62.00
Dave Magadan	\$1,448,382.33	\$575,000.00	\$475,000.00	\$961,691.16	\$386,691.16	67.25
Dave Magadan	\$991,430.81	\$575,000.00	\$775,000.00	\$883,215.41	\$308,215.41	53.60
Dave Martinez	\$2,615,980.80	\$1,500,000.00	\$2,000,000.00	\$2,307,990.40	\$807,990.40	53.87
David Cone	\$9,244,878.91	\$12,000,000.00	\$9,500,000.00	\$9,372,439.45	(\$2,627,560.55)	21.90
David Cone	\$5,448,258.07	\$9,500,000.00	\$6,666,667.00	\$6,057,462.54	(\$3,442,537.46)	36.24
David Cone	\$3,231,490.10	\$1,000,000.00	\$12,000,000.00	\$7,615,745.05	\$6,615,745.05	661.57
David Segui	\$5,471,121.69	\$7,000,000.00	\$4,325,000.00	\$4,898,060.85	(\$2,101,939.15)	30.03
David Segui	\$4,061,065.14	\$4,325,000.00	\$2,500,000.00	\$3,280,532.57	(\$1,044,467.43)	24.15
David Weathers	\$3,782,987.16	\$1,833,333.00	\$1,200,000.00	\$2,491,493.58	\$658,160.58	35.90
David Weathers	\$0.00	\$650,000.00	\$405,000.00	\$202,500.00	(\$447,500.00)	68.85
David Wells	\$5,744,012.30	\$2,250,000.00	\$9,250,000.00	\$7,497,006.15	\$5,247,006.15	233.20
Dean Palmer	\$4,383,729.48	\$5,000,000.00	\$5,825,000.00	\$5,104,364.74	\$104,364.74	2.09
Delino DeShields	\$5,198,768.51	\$1,250,000.00	\$4,333,667.00	\$4,766,217.75	\$3,516,217.75	281.30
Delino DeShields	\$6,883,744.16	\$3,719,758.00	\$3,000,000.00	\$4,941,872.08	\$1,222,114.08	32.85

Appendix B: Continued

Name	Marginal Revenue	New Salary	Old Salary	Nash Salary	Diff between Nash and Real	Pct Error
Dennis Cook	\$2,274,246.34	\$2,000,000.00	\$850,000.00	\$1,562,123.17	(\$437,876.83)	21.89
Denny Neagle	\$3,289,363.25	\$7,200,000.00	\$4,750,000.00	\$4,019,681.62	(\$3,180,318.38)	44.17
Derek Bell	\$6,272,624.75	\$5,000,000.00	\$5,000,000.00	\$5,636,312.38	\$636,312.38	12.73
Devon White	\$7,133,800.50	\$2,500,000.00	\$3,510,000.00	\$5,321,900.25	\$2,821,900.25	112.88
Dennis Cook	\$1,425,626.03	\$1,250,000.00	\$2,400,000.00	\$1,912,813.01	\$662,813.01	53.03
Doug Brocail	\$3,326,362.51	\$750,000.00	\$2,300,000.00	\$2,813,181.25	\$2,063,181.25	275.09
Jason Schmidt	\$2,104,565.62	\$4,937,500.00	\$3,200,000.00	\$2,652,282.81	(\$2,285,217.19)	46.28
Jay Powell	\$2,045,968.10	\$2,250,000.00	\$1,600,000.00	\$1,822,984.05	(\$427,015.95)	18.98
John Burkett	\$2,959,248.91	\$5,500,000.00	\$1,750,000.00	\$2,354,624.45	(\$3,145,375.55)	57.19
Sterling Hitchcock	\$2,980,695.12	\$4,936,719.00	\$6,000,000.00	\$4,490,347.56	(\$446,371.44)	9.04
Doug Glanville	\$5,564,560.80	\$4,000,000.00	\$3,016,667.00	\$4,290,613.90	\$290,613.90	7.27
Doug Henry	\$1,898,205.74	\$800,000.00	\$725,000.00	\$1,311,602.87	\$511,602.87	63.95
Doug Henry	\$1,038,630.70	\$1,200,000.00	\$800,000.00	\$919,315.35	(\$280,684.65)	23.39
Doug Jones	\$3,660,950.27	\$400,000.00	\$2,500,000.00	\$3,080,475.14	\$2,680,475.14	670.12
Doug Jones	\$4,402,041.55	\$600,000.00	\$400,000.00	\$2,401,020.77	\$1,801,020.77	300.17
Ed Sprague	\$2,655,505.05	\$1,300,000.00	\$2,350,000.00	\$2,502,752.53	\$1,202,752.53	92.52
Eddie Perez	\$1,886,941.09	\$500,000.00	\$650,000.00	\$1,268,470.54	\$768,470.54	153.69
Edgar Martinez	\$9,533,656.20	\$5,400,000.00	\$3,500,000.00	\$6,516,828.10	\$1,116,828.10	20.68
Ellis Burks	\$6,259,836.14	\$5,666,667.00	\$5,500,000.00	\$5,879,918.07	\$213,251.07	3.76
Ellis Burks	\$7,969,770.39	\$4,500,000.00	\$4,900,000.00	\$6,434,885.20	\$1,934,885.20	43.00
Eric Davis	\$4,347,967.54	\$3,420,840.00	\$2,500,000.00	\$3,423,983.77	\$3,143.77	0.09
Eric Davis	\$3,771,134.60	\$1,500,000.00	\$4,420,840.00	\$4,095,987.30	\$2,595,987.30	173.07
Eric Young	\$5,128,723.40	\$2,000,000.00	\$4,500,000.00	\$4,814,361.70	\$2,814,361.70	140.72
F.P. Santangelo	\$3,754,532.71	\$750,000.00	\$550,000.00	\$2,152,266.36	\$1,402,266.36	186.97
FP Santangelo	\$3,529,319.89	\$550,000.00	\$320,000.00	\$1,924,659.95	\$1,374,659.95	249.94
Frank Castillo	\$1,006,975.00	\$2,250,000.00	\$375,000.00	\$690,987.50	(\$1,559,012.50)	69.29
Gary DiSarcina	\$4,144,812.78	\$320,000.00	\$3,225,000.00	\$3,684,906.39	\$3,364,906.39	1051.53
Gary Gaetti	\$4,175,176.45	\$2,000,000.00	\$170,000.00	\$2,172,588.22	\$172,588.22	8.63
Gerald Williams	\$5,586,803.35	\$2,373,439.00	\$1,475,000.00	\$3,530,901.67	\$1,157,462.67	48.77
Glenallen Hill	\$4,243,310.69	\$1,150,000.00	\$325,000.00	\$2,284,155.35	\$1,134,155.35	98.62
Graeme Lloyd	\$1,159,353.88	\$3,000,000.00	\$1,025,000.00	\$1,092,176.94	(\$1,907,823.06)	63.59
Greg Colbrunn	\$3,462,213.24	\$900,000.00	\$735,000.00	\$2,098,606.62	\$1,198,606.62	133.18
Greg Myers	\$1,475,672.32	\$1,200,000.00	\$850,000.00	\$1,162,836.16	(\$37,163.84)	3.10
Greg Norton	\$1,596,861.75	\$450,000.00	\$285,000.00	\$940,930.88	\$490,930.88	109.10
Greg Swindell	\$3,921,778.58	\$1,333,333.00	\$1,300,000.00	\$2,610,889.29	\$1,277,556.29	95.82
Greg Vaughn	\$10,387,693.22	\$7,097,962.00	\$5,615,428.00	\$8,001,560.61	\$903,598.61	12.73
Gregg Jefferies	\$3,886,600.79	\$1,375,000.00	\$6,000,000.00	\$4,943,300.39	\$3,568,300.39	259.51
Gregg Olson	\$3,592,073.00	\$1,250,000.00	\$850,000.00	\$2,221,036.50	\$971,036.50	77.68
Gregg Zaun	\$1,391,105.30	\$1,150,000.00	\$1,150,000.00	\$1,270,552.65	\$120,552.65	10.48
Hal Morris	\$1,104,601.95	\$500,000.00	\$450,000.00	\$777,300.97	\$277,300.97	55.46
Hal Morris	\$3,783,049.74	\$450,000.00	\$1,400,000.00	\$2,591,524.87	\$2,141,524.87	475.89
Harold Baines	\$5,170,950.74	\$1,000,000.00	\$2,000,000.00	\$3,585,475.37	\$2,585,475.37	258.55

Appendix B: Continued

Name	Marginal Revenue	New Salary	Old Salary	Nash Salary	Diff between Nash and Real	Pct Error
Harold Baines	\$4,699,496.20	\$2,000,000.00	\$1,730,000.00	\$3,214,748.10	\$1,214,748.10	60.74
Heathcliff Slocumb	\$2,988,008.01	\$200,000.00	\$3,000,000.00	\$2,994,004.01	\$2,794,004.01	1397.00
Heathcliff Slocumb	\$395,926.35	\$1,600,000.00	\$200,000.00	\$297,963.17	(\$1,302,036.83)	81.38
Henry Rodriguez	\$6,868,878.50	\$3,700,000.00	\$2,700,000.00	\$4,784,439.25	\$1,084,439.25	29.31
Henry Rodriguez	\$7,485,555.63	\$1,500,000.00	\$4,600,000.00	\$6,042,777.82	\$4,542,777.82	302.85
Hideo Nomo	\$3,960,749.35	\$4,500,000.00	\$4,500,000.00	\$4,230,374.67	(\$269,625.33)	5.99
Hideo Nomo	\$2,343,722.53	\$4,500,000.00	\$1,000,000.00	\$1,671,861.26	(\$2,828,138.74)	62.85
Ismael Valdes	\$2,558,732.16	\$2,500,000.00	\$5,737,500.00	\$4,148,116.08	\$1,648,116.08	65.92
Ismael Valdes	\$2,702,981.45	\$2,500,000.00	\$2,500,000.00	\$2,601,490.72	\$101,490.72	4.06
James Baldwin	\$2,324,829.75	\$1,250,000.00	\$5,950,000.00	\$4,137,414.87	\$2,887,414.87	230.99
Jason Bere	\$899,581.43	\$2,250,000.00	\$800,000.00	\$849,790.71	(\$1,400,209.29)	62.23
Jason Bere	\$318,492.97	\$800,000.00	\$1,200,000.00	\$759,246.48	(\$40,753.52)	5.09
Jason Christiansen	\$1,180,659.16	\$1,733,333.00	\$1,600,000.00	\$1,390,329.58	(\$343,003.42)	19.79
Jason Giambi	\$17,722,456.07	\$10,428,571.00	\$4,103,333.00	\$10,912,894.53	\$484,323.53	4.64
Jason Isringhausen	\$2,068,083.33	\$2,750,000.00	\$3,300,000.00	\$2,684,041.67	(\$65,958.33)	2.40
Javy Lopez	\$4,815,777.30	\$6,000,000.00	\$7,750,000.00	\$6,282,888.65	\$282,888.65	4.71
Jay Buhner	\$1,379,792.95	\$1,850,000.00	\$1,450,000.00	\$1,414,896.48	(\$435,103.52)	23.52
Jay Buhner	\$5,274,855.54	\$1,450,000.00	\$4,816,804.00	\$5,045,829.77	\$3,595,829.77	247.99
Jeff Brantley	\$713,355.65	\$650,000.00	\$500,000.00	\$606,677.83	(\$43,322.17)	6.66
Jeff Brantley	\$988,103.54	\$500,000.00	\$2,800,000.00	\$1,894,051.77	\$1,394,051.77	278.81
Jeff Conine	\$2,531,696.67	\$2,500,000.00	\$1,960,000.00	\$2,245,848.33	(\$254,151.67)	10.17
Jeff Fassero	\$2,561,114.53	\$2,400,000.00	\$2,000,000.00	\$2,280,557.26	(\$119,442.74)	4.98
Jeff Fassero	\$3,391,319.37	\$2,000,000.00	\$5,016,667.00	\$4,203,993.18	\$2,203,993.18	110.20
Jeff Frye	\$603,571.14	\$1,000,000.00	\$2,500,000.00	\$1,551,785.57	\$551,785.57	55.18
Jeff Montgomery	\$2,361,323.54	\$200,000.00	\$2,800,000.00	\$2,580,661.77	\$2,380,661.77	1190.33
Jeff Nelson	\$1,258,902.98	\$3,333,333.00	\$1,916,667.00	\$1,587,784.99	(\$1,745,548.01)	52.37
Jeffrey Hammonds	\$3,277,007.42	\$6,500,000.00	\$3,183,333.00	\$3,230,170.21	(\$3,269,829.79)	50.31
Jerry DiPoto	\$4,208,994.46	\$2,350,000.00	\$2,250,000.00	\$3,229,497.23	\$879,497.23	37.43
Jim Leyritz	\$7,664,092.01	\$1,000,000.00	\$1,900,000.00	\$4,782,046.01	\$3,782,046.01	378.20
Joe Girardi	\$2,186,844.64	\$2,000,000.00	\$3,400,000.00	\$2,793,422.32	\$793,422.32	39.67
Joe Oliver	\$1,836,727.40	\$1,100,000.00	\$500,000.00	\$1,168,363.70	\$68,363.70	6.21
Joey Hamilton	\$460,826.87	\$500,000.00	\$7,250,000.00	\$3,855,413.43	\$3,355,413.43	671.08
John Burkett	\$2,109,103.02	\$1,750,000.00	\$750,000.00	\$1,429,551.51	(\$320,448.49)	18.31
John Burkett	\$2,943,604.86	\$750,000.00	\$4,000,000.00	\$3,471,802.43	\$2,721,802.43	362.91
John Flaherty	\$3,116,235.53	\$2,947,410.00	\$1,280,000.00	\$2,198,117.76	(\$749,292.24)	25.42
John Franco	\$3,558,289.32	\$3,583,333.00	\$3,350,000.00	\$3,454,144.66	(\$129,188.34)	3.61
John Jaha	\$0.00	\$2,750,000.00	\$525,000.00	\$262,500.00	(\$2,487,500.00)	90.45
John Mabry	\$3,152,025.34	\$1,400,000.00	\$1,400,000.00	\$2,276,012.67	\$876,012.67	62.57
John Olerud	\$10,071,810.61	\$6,350,000.00	\$4,250,000.00	\$7,160,905.30	\$810,905.30	12.77
John Smoltz	\$3,159,146.47	\$7,666,667.00	\$8,000,000.00	\$5,579,573.24	(\$2,087,093.76)	27.22
John Valentin	\$1,895,569.59	\$550,000.00	\$6,350,000.00	\$4,122,784.80	\$3,572,784.80	649.60
John Vander Wal	\$104,256.57	\$1,075,000.00	\$560,000.00	\$332,128.29	(\$742,871.71)	69.10

Appendix B: Continued

Name	Marginal Revenue	New Salary	Old Salary	Nash Salary	Diff between Nash and Real	Pct Error
Johnny Damon	\$6,318,396.89	\$7,250,000.00	\$7,100,000.00	\$6,709,198.45	(\$540,801.55)	7.46
Jorge Fabregas	\$1,432,609.68	\$500,000.00	\$500,000.00	\$966,304.84	\$466,304.84	93.26
Jose Canseco	\$7,083,145.39	\$3,325,000.00	\$2,125,000.00	\$4,604,072.70	\$1,279,072.70	38.47
Jose Guillen	\$1,342,376.34	\$500,000.00	\$975,000.00	\$1,158,688.17	\$658,688.17	131.74
Jose Hernandez	\$2,603,378.12	\$3,333,333.00	\$2,400,000.00	\$2,501,689.06	(\$831,643.94)	24.95
Jose Mesa	\$1,190,024.83	\$2,900,000.00	\$3,950,000.00	\$2,570,012.42	(\$329,987.58)	11.38
Jose Mesa	\$3,424,623.24	\$2,850,000.00	\$1,700,000.00	\$2,562,311.62	(\$287,688.38)	10.09
Jose Offerman	\$6,609,955.49	\$4,950,000.00	\$2,000,000.00	\$4,304,977.75	(\$645,022.25)	13.03
Jose Valentin	\$4,691,083.74	\$5,166,667.00	\$1,320,000.00	\$3,005,541.87	(\$2,161,125.13)	41.83
Jose Valentin	\$3,597,916.39	\$1,320,000.00	\$3,036,095.00	\$3,317,005.69	\$1,997,005.69	151.29
Jose Vizcaino	\$752,973.41	\$1,700,000.00	\$1,500,000.00	\$1,126,486.70	(\$573,513.30)	33.74
Jose Vizcaino	\$1,460,852.83	\$1,500,000.00	\$3,500,000.00	\$2,480,426.41	\$980,426.41	65.36
Juan Gonzalez	\$5,977,490.40	\$11,000,000.00	\$10,000,000.00	\$7,988,745.20	(\$3,011,254.80)	27.38
Juan Gonzalez	\$6,149,143.86	\$10,000,000.00	\$7,500,000.00	\$6,824,571.93	(\$3,175,428.07)	31.75
Juan Guzman	\$3,973,345.51	\$6,000,000.00	\$5,250,000.00	\$4,611,672.76	(\$1,388,327.24)	23.14
Julian Tavarez	\$1,667,787.19	\$2,275,000.00	\$1,200,000.00	\$1,433,893.60	(\$841,106.40)	36.97
Keith Lockhart	\$1,889,094.53	\$600,000.00	\$800,000.00	\$1,344,547.27	\$744,547.27	124.09
Kelly Stinnett	\$1,572,660.01	\$500,000.00	\$1,000,000.00	\$1,286,330.01	\$786,330.01	157.27
Ken Caminiti	\$4,249,032.17	\$3,500,000.00	\$4,500,000.00	\$4,374,516.09	\$874,516.09	24.99
Ken Caminiti	\$7,427,910.23	\$4,500,000.00	\$3,500,000.00	\$5,463,955.11	\$963,955.11	21.42
Ken Ryan	\$2,402,600.20	\$600,000.00	\$990,000.00	\$1,696,300.10	\$1,096,300.10	182.72
Kenny Lofton	\$5,707,075.57	\$1,025,000.00	\$8,000,000.00	\$6,853,537.79	\$5,828,537.79	568.64
Kenny Rogers	\$3,546,404.84	\$7,500,000.00	\$5,000,000.00	\$4,273,202.42	(\$3,226,797.58)	43.02
Kent Bottenfield	\$2,913,396.62	\$2,000,000.00	\$4,000,000.00	\$3,456,698.31	\$1,456,698.31	72.83
Kevin Appier	\$3,336,238.81	\$8,500,000.00	\$5,600,000.00	\$4,468,119.40	(\$4,031,880.60)	47.43
Kevin Brown	\$12,159,323.89	\$10,714,286.00	\$4,935,000.00	\$8,547,161.94	(\$2,167,124.06)	20.23
Kevin Jarvis	\$0.00	\$1,250,000.00	\$550,000.00	\$275,000.00	(\$975,000.00)	78.00
Kevin Jordan	\$1,675,320.46	\$700,000.00	\$1,000,000.00	\$1,337,660.23	\$637,660.23	91.09
Kirt Manwaring	\$1,456,354.56	\$700,000.00	\$2,150,000.00	\$1,803,177.28	\$1,103,177.28	157.60
Lenny Harris	\$395,463.32	\$1,100,000.00	\$1,100,000.00	\$747,731.66	(\$352,268.34)	32.02
Lenny Harris	\$1,710,673.58	\$1,125,000.00	\$775,000.00	\$1,242,836.79	\$117,836.79	10.47
Luis Alicea	\$1,605,292.34	\$800,000.00	\$800,000.00	\$1,202,646.17	\$402,646.17	50.33
Luis Alicea	\$1,641,897.62	\$800,000.00	\$750,000.00	\$1,195,948.81	\$395,948.81	49.49
Luis Alicea	\$4,996,178.87	\$750,000.00	\$825,000.00	\$2,910,589.43	\$2,160,589.43	288.08
Luis Lopez	\$1,063,857.32	\$700,000.00	\$775,000.00	\$919,428.66	\$219,428.66	31.35
Luis Sojo	\$0.00	\$500,000.00	\$450,000.00	\$225,000.00	(\$275,000.00)	55.00
Manny Ramirez	\$9,264,217.30	\$13,050,000.00	\$4,250,000.00	\$6,757,108.65	(\$6,292,891.35)	48.22
Mark Clark	\$3,767,731.30	\$4,000,000.00	\$5,050,000.00	\$4,408,865.65	\$408,865.65	10.22
Mark Gardner	\$2,073,070.55	\$2,000,000.00	\$1,100,000.00	\$1,586,535.28	(\$413,464.72)	20.67
Mark Gardner	\$952,020.21	\$1,750,000.00	\$3,000,000.00	\$1,976,010.10	\$226,010.10	12.91
Mark Grace	\$9,994,004.61	\$3,000,000.00	\$5,300,000.00	\$7,647,002.31	\$4,647,002.31	154.90
Mark Guthrie	\$1,131,503.60	\$1,600,000.00	\$1,600,000.00	\$1,365,751.80	(\$234,248.20)	14.64

Appendix B: Continued

Name	Marginal Revenue	New Salary	Old Salary	Nash Salary	Diff between Nash and Real	Pct Error
Mark Guthrie	\$770,012.19	\$1,800,000.00	\$1,600,000.00	\$1,185,006.09	(\$614,993.91)	34.17
Mark Lewis	\$2,486,354.37	\$600,000.00	\$500,000.00	\$1,493,177.18	\$893,177.18	148.86
Mark Lewis	\$2,602,879.69	\$500,000.00	\$1,720,000.00	\$2,161,439.85	\$1,661,439.85	332.29
Mark McLemore	\$3,293,578.05	\$3,150,000.00	\$2,000,000.00	\$2,646,789.03	(\$503,210.97)	15.97
Mark McLemore	\$3,515,763.75	\$2,000,000.00	\$2,400,000.00	\$2,957,881.87	\$957,881.87	47.89
Mark Petkovsek	\$2,133,420.04	\$2,050,000.00	\$1,512,500.00	\$1,822,960.02	(\$227,039.98)	11.08
Mark Portugal	\$1,883,561.50	\$2,700,000.00	\$2,350,000.00	\$2,116,780.75	(\$583,219.25)	21.60
Mark Whiten	\$4,036,417.57	\$450,000.00	\$200,000.00	\$2,118,208.79	\$1,668,208.79	370.71
Mark Wohlers	\$322,655.38	\$600,000.00	\$500,000.00	\$411,327.69	(\$188,672.31)	31.45
Marty Cordova	\$1,640,237.22	\$500,000.00	\$3,000,000.00	\$2,320,118.61	\$1,820,118.61	364.02
Marty Cordova	\$2,508,704.89	\$2,500,000.00	\$500,000.00	\$1,504,352.44	(\$995,647.56)	39.83
Matt Stairs	\$4,201,207.99	\$500,000.00	\$3,200,000.00	\$3,700,604.00	\$3,200,604.00	640.12
Midre Cummings	\$321,437.63	\$425,000.00	\$300,000.00	\$310,718.81	(\$114,281.19)	26.89
Miguel Batista	\$1,442,815.13	\$400,000.00	\$325,000.00	\$883,907.56	\$483,907.56	120.98
Mike Benjamin	\$923,115.99	\$700,000.00	\$242,500.00	\$582,807.99	(\$117,192.01)	16.74
Mike Bordick	\$5,877,626.97	\$4,500,000.00	\$3,000,000.00	\$4,438,813.48	(\$61,186.52)	1.36
Mike Fetters	\$441.13	\$1,725,000.00	\$550,000.00	\$275,220.56	(\$1,449,779.44)	84.05
Mike Hampton	\$6,017,344.90	\$10,500,000.00	\$5,750,000.00	\$5,883,672.45	(\$4,616,327.55)	43.97
Mike Holtz	\$206,923.08	\$825,000.00	\$705,000.00	\$455,961.54	(\$369,038.46)	44.73
Mike Jackson	\$4,284,083.14	\$3,000,000.00	\$2,100,000.00	\$3,192,041.57	\$192,041.57	6.40
Mike Jackson	\$1,518,889.89	\$500,000.00	\$750,000.00	\$1,134,444.95	\$634,444.95	126.89
Mike Jackson	\$2,913,396.62	\$750,000.00	\$3,000,000.00	\$2,956,698.31	\$2,206,698.31	294.23
Mike James	\$316,458.75	\$500,000.00	\$1,525,000.00	\$920,729.38	\$420,729.38	84.15
Mike MacFarlane	\$4,382,864.52	\$600,000.00	\$725,000.00	\$2,553,932.26	\$1,953,932.26	325.66
Mike Magnante	\$1,333,129.26	\$900,000.00	\$775,000.00	\$1,054,064.63	\$154,064.63	17.12
Mike Magnante	\$970,917.32	\$775,000.00	\$600,000.00	\$785,458.66	\$10,458.66	1.35
Mike Matheny	\$1,137,411.75	\$600,000.00	\$800,000.00	\$968,705.87	\$368,705.87	61.45
Mike Matheny	\$1,177,761.24	\$750,000.00	\$600,000.00	\$888,880.62	\$138,880.62	18.52
Mike Mohler	\$1,119,487.71	\$490,000.00	\$525,000.00	\$822,243.86	\$332,243.86	67.80
Mike Morgan	\$2,860,794.15	\$750,000.00	\$700,000.00	\$1,780,397.08	\$1,030,397.08	137.39
Mike Munoz	\$715,534.27	\$750,000.00	\$450,000.00	\$582,767.14	(\$167,232.86)	22.30
Mike Mussina	\$8,571,498.48	\$10,000,000.00	\$6,786,032.00	\$7,678,765.24	(\$2,321,234.76)	23.21
Mike Piazza	\$20,763,988.23	\$7,171,428.00	\$8,000,000.00	\$14,381,994.11	\$7,210,566.11	100.55
Mike Stanton	\$3,638,775.38	\$2,400,000.00	\$2,016,667.00	\$2,827,721.19	\$427,721.19	17.82
Mike Timlin	\$4,395,009.24	\$2,250,000.00	\$3,025,000.00	\$3,710,004.62	\$1,460,004.62	64.89
Mike Trombley	\$3,091,263.45	\$2,250,000.00	\$1,500,000.00	\$2,295,631.72	\$45,631.72	2.03
Mike Williams	\$2,494,746.52	\$2,000,000.00	\$1,200,000.00	\$1,847,373.26	(\$152,626.74)	7.63
Mo Vaughn	\$11,658,856.81	\$7,166,666.00	\$6,650,000.00	\$9,154,428.41	\$1,987,762.41	27.74
Moises Alou	\$3,996,381.99	\$6,000,000.00	\$5,250,000.00	\$4,623,191.00	(\$1,376,809.00)	22.95
Omar Olivares	\$2,451,462.16	\$4,000,000.00	\$1,825,000.00	\$2,138,231.08	(\$1,861,768.92)	46.54
Orel Hershiser	\$5,434,299.91	\$2,500,000.00	\$3,720,000.00	\$4,577,149.96	\$2,077,149.96	83.09
Orel Hershiser	\$3,754,532.71	\$2,000,000.00	\$2,500,000.00	\$3,127,266.36	\$1,127,266.36	56.36

Appendix B: Continued

Name	Marginal Revenue	New Salary	Old Salary	Nash Salary	Diff between Nash and Real	Pct Error
Orlando Merced	\$322,886.91	\$1,050,000.00	\$300,000.00	\$311,443.45	(\$738,556.55)	70.34
Otis Nixon	\$4,343,633.72	\$1,500,000.00	\$2,000,000.00	\$3,171,816.86	\$1,671,816.86	111.45
Ozzie Guillen	\$3,504,580.63	\$550,000.00	\$170,000.00	\$1,837,290.31	\$1,287,290.31	234.05
Pat Hentgen	\$3,430,770.36	\$4,500,000.00	\$6,000,000.00	\$4,715,385.18	\$215,385.18	4.79
Pat Mahomes	\$713,355.65	\$500,000.00	\$500,000.00	\$731,677.83	\$231,677.83	46.34
Pat Meares	\$2,959,797.61	\$1,500,000.00	\$2,500,000.00	\$2,729,898.80	\$1,229,898.80	81.99
Pat Rapp	\$2,798,071.18	\$750,000.00	\$1,650,000.00	\$2,224,035.59	\$1,474,035.59	196.54
Pat Rapp	\$2,700,321.23	\$2,000,000.00	\$750,000.00	\$1,725,160.61	(\$274,839.39)	13.74
Pat Rapp	\$1,633,054.42	\$1,650,000.00	\$800,000.00	\$1,216,527.21	(\$433,472.79)	26.27
Paul O'Neill	\$12,613,670.67	\$7,250,000.00	\$6,500,000.00	\$9,556,835.33	\$2,306,835.33	31.82
Pedro Astacio	\$6,412,879.05	\$4,000,000.00	\$6,850,000.00	\$6,631,439.53	\$2,631,439.53	65.79
Pete Schourek	\$410,936.15	\$2,000,000.00	\$1,600,000.00	\$1,005,468.08	(\$994,531.92)	49.73
Pete Schourek	\$704,757.59	\$200,000.00	\$2,000,000.00	\$1,352,378.80	\$1,152,378.80	576.19
Rafael Palmiero	\$8,899,251.16	\$8,849,931.00	\$6,515,828.00	\$7,707,539.58	(\$1,142,391.42)	12.91
Ramon Martinez	\$1,606,941.68	\$300,000.00	\$6,320,000.00	\$3,963,470.84	\$3,663,470.84	1221.16
Ramon Martinez	\$3,133,435.46	\$1,500,000.00	\$4,800,000.00	\$3,966,717.73	\$2,466,717.73	164.45
Randy Johnson	\$10,308,549.47	\$9,700,000.00	\$6,000,000.00	\$8,154,274.73	(\$1,545,725.27)	15.94
Randy Velarde	\$3,744,817.63	\$1,600,000.00	\$850,000.00	\$2,297,408.82	\$697,408.82	43.59
Randy Velarde	\$4,311,404.66	\$1,000,000.00	\$3,150,000.00	\$3,730,702.33	\$2,730,702.33	273.07
Randy Velarde	\$0.00	\$3,050,000.00	\$1,600,000.00	\$800,000.00	(\$2,250,000.00)	73.77
Reggie Sanders	\$4,677,541.10	\$1,750,000.00	\$1,500,000.00	\$3,088,770.55	\$1,338,770.55	76.50
Reggie Sanders	\$5,740,010.53	\$1,500,000.00	\$3,700,000.00	\$4,720,005.26	\$3,220,005.26	214.67
Rey Sanchez	\$1,501,265.24	\$2,300,000.00	\$1,200,000.00	\$1,350,632.62	(\$949,367.38)	41.28
Rey Sanchez	\$1,727,756.50	\$1,200,000.00	\$500,000.00	\$1,113,878.25	(\$86,121.75)	7.18
Rheal Cormier	\$714,882.52	\$2,583,333.00	\$2,000,000.00	\$1,357,441.26	(\$1,225,891.74)	47.45
Rich Amaral	\$1,103,893.82	\$500,000.00	\$550,000.00	\$826,946.91	\$326,946.91	65.39
Rich Becker	\$2,865,977.77	\$475,000.00	\$1,550,000.00	\$2,207,988.88	\$1,732,988.88	364.84
Rich Becker	\$2,927,890.87	\$500,000.00	\$475,000.00	\$1,701,445.43	\$1,201,445.43	240.29
Rich Rodriguez	\$1,886,442.62	\$600,000.00	\$730,000.00	\$1,308,221.31	\$708,221.31	118.04
Rick Helling	\$5,179,005.20	\$3,000,000.00	\$4,500,000.00	\$4,839,502.60	\$1,839,502.60	61.32
Rick Reed	\$6,735,394.27	\$6,750,000.00	\$4,375,000.00	\$5,555,197.13	(\$1,194,802.87)	17.70
Rickey Henderson	\$8,963,108.21	\$1,900,000.00	\$1,150,000.00	\$5,056,554.11	\$3,156,554.11	166.13
Ricky Bottalico	\$1,071,329.22	\$1,500,000.00	\$1,500,000.00	\$1,285,664.61	(\$214,335.39)	14.29
Ricky Bottalico	\$1,600,534.59	\$1,500,000.00	\$1,500,000.00	\$1,550,267.30	\$50,267.30	3.35
Ricky Bottalico	\$1,086,716.67	\$1,500,000.00	\$2,300,000.00	\$1,693,358.33	\$193,358.33	12.89
Ricky Gutierrez	\$3,633,088.81	\$2,166,667.00	\$3,400,000.00	\$3,516,544.41	\$1,349,877.41	62.30
Ricky Gutierrez	\$2,594,908.19	\$2,500,000.00	\$2,212,500.00	\$2,403,704.10	(\$96,295.90)	3.85
Rico Brogna	\$3,527,183.74	\$1,500,000.00	\$4,200,000.00	\$3,863,591.87	\$2,363,591.87	157.57
Rob Ducey	\$248,278.75	\$500,000.00	\$400,000.00	\$324,139.38	(\$175,860.62)	35.17
Rob Ducey	\$399,961.86	\$400,000.00	\$375,000.00	\$387,480.93	(\$12,519.07)	3.13
Robert Fick	\$0.00	\$1,150,000.00	\$255,000.00	\$127,500.00	(\$1,022,500.00)	88.91
Roberto Alomar	\$9,310,674.21	\$7,049,966.00	\$6,343,771.00	\$7,827,222.60	\$777,256.60	11.02

Appendix B: Continued

Name	Marginal Revenue	New Salary	Old Salary	Nash Salary	Diff between Nash and Real	Pct Error
Robin Ventura	\$8,592,790.88	\$7,000,000.00	\$6,100,000.00	\$7,346,395.44	\$346,395.44	4.95
Rod Beck	\$3,764,642.78	\$5,500,000.00	\$3,600,000.00	\$3,682,321.39	(\$1,817,678.61)	33.05
Roger Cedeno	\$6,225,506.71	\$2,375,000.00	\$2,700,000.00	\$4,462,753.35	\$2,087,753.35	87.91
Ron Coomer	\$2,561,114.53	\$1,100,000.00	\$1,500,000.00	\$2,030,557.26	\$930,557.26	84.60
Ron Gant	\$4,721,133.23	\$1,750,000.00	\$5,066,667.00	\$4,893,900.11	\$3,143,900.11	179.65
Ron Gant	\$2,023,799.18	\$500,000.00	\$1,750,000.00	\$1,886,899.59	\$1,386,899.59	277.38
Rondell White	\$6,608,675.89	\$4,500,000.00	\$4,000,000.00	\$5,304,337.95	\$804,337.95	17.87
Royce Clayton	\$4,606,368.44	\$4,500,000.00	\$3,500,000.00	\$4,053,184.22	(\$446,815.78)	9.93
Rudy Seanez	\$444.63	\$1,650,000.00	\$775,000.00	\$387,722.31	(\$1,262,277.69)	76.50
Sandy Alomar Jr	\$1,978,566.99	\$2,900,000.00	\$2,700,000.00	\$2,339,283.49	(\$560,716.51)	19.34
Scott Brosius	\$3,518,565.10	\$5,250,000.00	\$2,650,000.00	\$3,084,282.55	(\$2,165,717.45)	41.25
Scott Kamieniecki	\$1,466,399.78	\$1,850,000.00	\$3,350,000.00	\$2,408,199.89	\$558,199.89	30.17
Scott Karl	\$1,342,999.49	\$625,000.00	\$3,700,000.00	\$2,521,499.74	\$1,896,499.74	303.44
Scott Radinsky	\$1,930,379.11	\$2,500,000.00	\$900,000.00	\$1,415,189.56	(\$1,084,810.44)	43.39
Scott Sanders	\$1,597,317.40	\$825,000.00	\$1,700,000.00	\$1,648,658.70	\$823,658.70	99.84
Scott Service	\$1,454,014.24	\$500,000.00	\$745,000.00	\$1,099,507.12	\$599,507.12	119.90
Scott Spiezio	\$3,694,515.86	\$600,000.00	\$260,000.00	\$1,977,257.93	\$1,377,257.93	229.54
Sean Berry	\$2,782,295.69	\$1,050,000.00	\$1,000,000.00	\$1,891,147.85	\$841,147.85	80.11
Shawon Dunston	\$1,930,379.11	\$610,000.00	\$1,000,000.00	\$1,465,189.56	\$855,189.56	140.20
Shawon Dunston	\$946,445.85	\$1,000,000.00	\$600,000.00	\$773,222.92	(\$226,777.08)	22.68
Shigetoshi Hasegawa	\$1,675,616.34	\$1,500,000.00	\$1,500,000.00	\$1,587,808.17	\$87,808.17	5.85
Stan Javier	\$4,117,661.00	\$1,500,000.00	\$1,750,000.00	\$2,933,830.50	\$1,433,830.50	95.59
Steve Avery	\$1,044,664.53	\$750,000.00	\$3,900,000.00	\$2,472,332.26	\$1,722,332.26	229.64
Steve Finley	\$13,244,804.96	\$5,375,000.00	\$3,400,000.00	\$8,322,402.48	\$2,947,402.48	54.84
Steve Karsay	\$4,877,904.95	\$4,000,000.00	\$2,700,000.00	\$3,788,952.48	(\$211,047.52)	5.28
Steve Reed	\$845,846.15	\$500,000.00	\$1,600,000.00	\$1,222,923.08	\$722,923.08	144.58
Steve Trachsel	\$4,511,911.97	\$1,000,000.00	\$5,250,000.00	\$4,880,955.98	\$3,880,955.98	388.10
Steve Trachsel	\$5,289,169.13	\$3,000,000.00	\$1,000,000.00	\$3,144,584.57	\$144,584.57	4.82
T.J. Mathews	\$1,177,556.13	\$1,000,000.00	\$1,900,000.00	\$1,538,778.06	\$538,778.06	53.88
Terry Adams	\$2,117,067.75	\$2,700,000.00	\$2,600,000.00	\$2,358,533.88	(\$341,466.12)	12.65
Terry Mulholland	\$3,339,426.41	\$2,750,000.00	\$2,975,000.00	\$3,157,213.21	\$407,213.21	14.81
Terry Mulholland	\$1,209,621.36	\$2,925,000.00	\$600,000.00	\$904,810.68	(\$2,020,189.32)	69.07
Terry Shumpert	\$0.00	\$650,000.00	\$220,000.00	\$110,000.00	(\$540,000.00)	83.08
Terry Steinbach	\$5,185,122.82	\$1,000,000.00	\$2,850,000.00	\$4,017,561.41	\$3,017,561.41	301.76
Thomas Howard	\$99,004.53	\$650,000.00	\$325,000.00	\$212,002.26	(\$437,997.74)	67.38
Tim Belcher	\$4,570,765.92	\$750,000.00	\$4,600,000.00	\$4,585,382.96	\$3,835,382.96	511.38
Tim Belcher	\$6,746,816.84	\$4,650,000.00	\$2,300,000.00	\$4,523,408.42	(\$126,591.58)	2.72
Tim Bogar	\$742,377.10	\$700,000.00	\$725,000.00	\$733,688.55	\$33,688.55	4.81
Tim Raines	\$3,256,360.87	\$600,000.00	\$1,300,000.00	\$2,278,180.43	\$1,678,180.43	279.70
Tim Wakefield	\$3,373,723.06	\$3,000,000.00	\$4,500,000.00	\$3,936,861.53	\$936,861.53	31.23
Tim Worrell	\$259,363.87	\$1,300,000.00	\$700,000.00	\$479,681.94	(\$820,318.06)	63.10
Tino Martinez	\$4,036,341.15	\$5,750,000.00	\$6,300,000.00	\$5,168,170.58	(\$581,829.42)	10.12

Appendix B: Continued

Name	Marginal Revenue	New Salary	Old Salary	Nash Salary	Diff between Nash and Real	Pct Error
Todd Hollandsworth	\$1,610,603.31	\$2,750,000.00	\$1,450,000.00	\$1,530,301.65	(\$1,219,698.35)	44.35
Todd Hundley	\$2,688,479.22	\$3,500,000.00	\$6,125,000.00	\$4,406,739.61	\$906,739.61	25.91
Todd Jones	\$2,308,813.18	\$1,000,000.00	\$3,975,000.00	\$3,141,906.59	\$2,141,906.59	214.19
Todd Pratt	\$1,596,783.54	\$650,000.00	\$600,000.00	\$1,098,391.77	\$448,391.77	68.98
Todd Stottlemire	\$8,265,114.83	\$8,000,000.00	\$4,900,000.00	\$6,582,557.41	(\$1,417,442.59)	17.72
Todd Van Poppel	\$1,252,411.34	\$2,000,000.00	\$850,000.00	\$1,051,205.67	(\$948,794.33)	47.44
Todd Zeile	\$9,360,565.45	\$4,333,333.00	\$3,200,000.00	\$6,280,282.73	\$1,946,949.73	44.93
Tom Candiotti	\$2,349,509.10	\$3,000,000.00	\$2,850,000.00	\$2,599,754.55	(\$400,245.45)	13.34
Tom Goodwin	\$2,934,103.91	\$3,416,667.00	\$3,225,000.00	\$3,079,551.96	(\$337,115.04)	9.87
Tom Gordon	\$2,051,023.37	\$2,000,000.00	\$3,750,000.00	\$2,900,511.69	\$900,511.69	45.03
Tom Lampkin	\$1,896,516.74	\$1,100,000.00	\$950,000.00	\$1,423,258.37	\$323,258.37	29.39
Tom Lampkin	\$1,785,570.94	\$625,000.00	\$500,000.00	\$1,142,785.47	\$517,785.47	82.85
Tom Prince	\$666,042.24	\$300,000.00	\$350,000.00	\$508,021.12	\$208,021.12	69.34
Tony Eusebio	\$635,631.62	\$1,100,000.00	\$900,000.00	\$767,815.81	(\$332,184.19)	30.20
Tony Gwynn	\$6,124,349.24	\$2,000,000.00	\$6,300,000.00	\$6,212,174.62	\$4,212,174.62	210.61
Tony Phillips	\$5,809,975.91	\$700,000.00	\$560,000.00	\$3,184,987.95	\$2,484,987.95	355.00
Turk Wendell	\$5,340,071.72	\$3,100,000.00	\$2,050,014.00	\$3,695,042.86	\$595,042.86	19.19
Tyler Houston	\$872,128.99	\$835,000.00	\$715,000.00	\$793,564.50	(\$41,435.50)	4.96
Vinny Castilla	\$3,003,609.35	\$3,000,000.00	\$7,250,000.00	\$5,126,804.67	\$2,126,804.67	70.89
Wally Joyner	\$5,142,016.84	\$2,841,680.00	\$3,750,000.00	\$4,446,008.42	\$1,604,328.42	56.46
Wilfredo Cordero	\$1,943,932.69	\$2,166,667.00	\$500,000.00	\$1,221,966.34	(\$944,700.66)	43.60
Will Clark	\$6,418,319.31	\$4,920,840.00	\$5,812,595.00	\$6,115,457.16	\$1,194,617.16	24.28
Willie Greene	\$3,395,334.78	\$1,000,000.00	\$1,750,000.00	\$2,572,667.39	\$1,572,667.39	157.27
Willie Greene	\$4,086,133.55	\$395,000.00	\$1,000,000.00	\$2,543,066.78	\$2,148,066.78	543.81
Willie McGee	\$2,657,940.25	\$1,000,000.00	\$1,400,000.00	\$2,028,970.13	\$1,028,970.13	102.90
Wilton Guerrero	\$1,136,979.76	\$400,000.00	\$825,000.00	\$980,989.88	\$580,989.88	145.25

Appendix C: Nash Predicted Salary w/ 15% Player Rate

Name	Marginal Revenue	New Salary	Old Salary	Nash Salary	Diff between Nash and Real	Pct Error
Aaron Sele	\$5,102,312.30	\$7,166,667.00	\$7,000,000.00	\$6,683,718.72	(\$482,948.28)	6.74
Aaron Sele	\$3,756,668.40	\$7,500,000.00	\$5,525,000.00	\$5,230,278.07	(\$2,269,721.93)	30.26
Al Leiter	\$5,343,345.51	\$5,250,000.00	\$3,000,000.00	\$3,390,557.58	(\$1,859,442.42)	35.42
Alan Embree	\$677,010.24	\$500,000.00	\$2,400,000.00	\$2,112,835.04	\$1,612,835.04	322.57
Alan Mills	\$1,709,598.47	\$1,250,000.00	\$1,000,000.00	\$1,118,266.41	(\$131,733.59)	10.54
Albert Belle	\$12,884,884.82	\$11,949,794.00	\$10,000,000.00	\$10,480,814.14	(\$1,468,979.86)	12.29
Albie Lopez	\$2,754,361.71	\$4,000,000.00	\$2,975,000.00	\$2,938,226.95	(\$1,061,773.05)	26.54
Alex Arias	\$1,075,150.03	\$550,000.00	\$550,000.00	\$637,525.01	\$87,525.01	15.91
Alex Cora	\$428,776.61	\$625,000.00	\$240,000.00	\$271,462.77	(\$353,537.23)	56.57
Alex Gonzalez	\$1,217,735.69	\$4,250,000.00	\$295,000.00	\$448,789.28	(\$3,801,210.72)	89.44
Alex Rodriguez	\$10,153,614.33	\$22,000,000.00	\$4,362,500.00	\$5,327,685.72	(\$16,672,314.28)	75.78
Allen Watson	\$2,818,433.93	\$200,000.00	\$2,900,000.00	\$2,886,405.65	\$2,686,405.65	1343.20
Allen Watson	\$2,301,934.16	\$1,300,000.00	\$200,000.00	\$550,322.36	(\$749,677.64)	57.67
Alvin Morman	\$306.03	\$365,000.00	\$220,000.00	\$183,384.34	(\$181,615.66)	49.76
Andres Galarraga	\$4,716,859.49	\$6,000,000.00	\$8,500,000.00	\$7,869,476.58	\$1,869,476.58	31.16
Andy Ashby	\$4,799,864.51	\$6,000,000.00	\$5,900,000.00	\$5,716,644.09	(\$283,355.91)	4.72
Andy Benes	\$1,861,786.71	\$2,867,542.00	\$6,000,000.00	\$5,310,297.78	\$2,442,755.78	85.19
Armando Reynoso	\$2,581,354.47	\$2,000,000.00	\$3,375,000.00	\$3,242,725.74	\$1,242,725.74	62.14
Armando Reynoso	\$3,921,778.58	\$1,625,000.00	\$1,250,000.00	\$1,695,296.43	\$70,296.43	4.33
Arthur Rhodes	\$1,945,096.53	\$2,750,000.00	\$2,200,000.00	\$2,157,516.09	(\$592,483.91)	21.54
Benito Santiago	\$1,710,997.63	\$2,044,168.00	\$500,000.00	\$701,832.94	(\$1,342,335.06)	65.67
Benito Santiago	\$3,451,524.01	\$1,700,000.00	\$4,000,000.00	\$3,908,587.33	\$2,208,587.33	129.92
Bernie Williams	\$13,682,663.13	\$9,857,143.00	\$8,300,000.00	\$9,197,110.52	(\$660,032.48)	6.70
Bill Haselman	\$883,200.84	\$650,000.00	\$625,000.00	\$668,033.47	\$18,033.47	2.77
BJ Surhoff	\$8,921,507.92	\$3,705,516.00	\$1,716,667.00	\$2,917,473.82	(\$788,042.18)	21.27
Bobby Bonilla	\$678,213.37	\$900,000.00	\$200,000.00	\$279,702.23	(\$620,297.77)	68.92
Bobby Jones	\$1,164,471.57	\$625,000.00	\$5,366,667.00	\$4,666,301.10	\$4,041,301.10	646.61
Brent Mayne	\$3,055,654.33	\$1,750,000.00	\$750,000.00	\$1,134,275.72	(\$615,724.28)	35.18
Bret Boone	\$4,899,094.13	\$3,250,000.00	\$3,750,000.00	\$3,941,515.69	\$691,515.69	21.28
Brian Bohanon	\$1,972,951.60	\$2,110,000.00	\$350,000.00	\$620,491.93	(\$1,489,508.07)	70.59
Brian Hunter	\$3,298,592.80	\$300,000.00	\$375,000.00	\$862,265.47	\$562,265.47	187.42
Brian Johnson	\$1,185,180.59	\$550,000.00	\$775,000.00	\$843,363.43	\$293,363.43	53.34
Brian Jordan	\$6,643,723.89	\$4,600,000.00	\$3,700,000.00	\$4,190,620.65	(\$409,379.35)	8.90
Brian L. Hunter	\$1,664,210.96	\$900,000.00	\$300,000.00	\$527,368.49	(\$372,631.51)	41.40
Brian L. Hunter	\$1,070,724.89	\$1,000,000.00	\$900,000.00	\$928,454.15	(\$71,545.85)	7.15
Brian Williams	\$411,677.39	\$600,000.00	\$375,000.00	\$381,112.90	(\$218,887.10)	36.48
Buddy Groom	\$1,033,760.19	\$1,750,000.00	\$850,000.00	\$880,626.70	(\$869,373.30)	49.68
Butch Henry	\$825,576.59	\$1,500,000.00	\$1,367,500.00	\$1,277,179.43	(\$222,820.57)	14.85
Cal Eldred	\$0.00	\$750,000.00	\$5,400,000.00	\$4,500,000.00	\$3,750,000.00	500.00
Cal Ripken Jr	\$5,414,961.39	\$6,300,000.00	\$6,300,000.00	\$6,152,493.57	(\$147,506.43)	2.34
Carlos Hernandez	\$498,199.80	\$210,000.00	\$3,500,000.00	\$2,999,699.97	\$2,789,699.97	1328.43
Carlos Hernandez	\$0.00	\$1,250,000.00	\$700,000.00	\$583,333.33	(\$666,666.67)	53.33

Appendix C: Continued

Name	Marginal Revenue	New Salary	Old Salary	Nash Salary	Diff between Nash and Real	Pct Error
Chad Kreuter	\$1,221,063.16	\$875,000.00	\$710,000.00	\$795,177.19	(\$79,822.81)	9.12
Chad Krueter	\$1,178,176.87	\$900,000.00	\$500,000.00	\$613,029.48	(\$286,970.52)	31.89
Chan Ho Park	\$4,187,600.09	\$6,884,803.00	\$9,900,000.00	\$8,947,933.35	\$2,063,130.35	29.97
Charles Johnson	\$2,873,617.77	\$5,000,000.00	\$4,600,000.00	\$4,312,269.63	(\$687,730.37)	13.75
Chris Gomez	\$460,368.04	\$1,000,000.00	\$3,000,000.00	\$2,576,728.01	\$1,576,728.01	157.67
Chris Stynes	\$2,290,133.25	\$1,250,000.00	\$1,300,000.00	\$1,465,022.21	\$215,022.21	17.20
Chuck Finley	\$4,743,379.51	\$7,911,948.00	\$5,800,000.00	\$5,623,896.58	(\$2,288,051.42)	28.92
Chuck Knoblauch	\$3,775,913.85	\$2,000,000.00	\$6,000,000.00	\$5,629,318.97	\$3,629,318.97	181.47
Craig Grebeck	\$0.00	\$550,000.00	\$415,000.00	\$345,833.33	(\$204,166.67)	37.12
Craig Grebeck	\$1,787,492.91	\$700,000.00	\$800,000.00	\$964,582.15	\$264,582.15	37.80
Craig Paquette	\$3,271,809.73	\$2,125,000.00	\$1,500,000.00	\$1,795,301.62	(\$329,698.38)	15.52
Dan Miceli	\$1,025,224.31	\$1,000,000.00	\$2,000,000.00	\$1,837,537.38	\$837,537.38	83.75
Dan Plesac	\$754,107.05	\$2,200,000.00	\$1,500,000.00	\$1,375,684.51	(\$824,315.49)	37.47
Dan Wilson	\$5,401,016.25	\$4,000,000.00	\$3,625,000.00	\$3,921,002.71	(\$78,997.29)	1.97
Danny Bautista	\$2,867,073.91	\$2,000,000.00	\$675,000.00	\$1,040,345.65	(\$959,654.35)	47.98
Danny Graves	\$5,009,591.94	\$3,525,000.00	\$2,100,000.00	\$2,584,931.99	(\$940,068.01)	26.67
Darren Bragg	\$2,940,429.99	\$800,000.00	\$367,500.00	\$796,321.66	(\$3,678.34)	0.46
Darren Bragg	\$3,177,150.59	\$750,000.00	\$800,000.00	\$1,196,191.77	\$446,191.77	59.49
Darren Dreifort	\$3,239,251.71	\$9,400,000.00	\$3,700,000.00	\$3,623,208.62	(\$5,776,791.38)	61.46
Darren Lewis	\$254,666.35	\$2,100,000.00	\$500,000.00	\$459,111.06	(\$1,640,888.94)	78.14
Darren Lewis	\$1,376,271.22	\$500,000.00	\$2,500,000.00	\$2,312,711.87	\$1,812,711.87	362.54
Darren Oliver	\$3,075,707.61	\$5,000,000.00	\$3,550,000.00	\$3,470,951.27	(\$1,529,048.73)	30.58
Darrin Fletcher	\$2,363,586.34	\$3,525,000.00	\$2,500,000.00	\$2,477,264.39	(\$1,047,735.61)	29.72
Darryl Hamilton	\$4,011,246.15	\$3,613,333.00	\$2,750,000.00	\$2,960,207.69	(\$653,125.31)	18.08
Darryl Kile	\$1,542,595.83	\$6,666,667.00	\$7,417,981.00	\$6,438,750.14	(\$227,916.86)	3.42
Dave Burba	\$3,175,361.04	\$2,000,000.00	\$5,000,000.00	\$4,695,893.51	\$2,695,893.51	134.79
Dave Hansen	\$987,208.39	\$475,000.00	\$450,000.00	\$539,534.73	\$64,534.73	13.59
Dave Hansen	\$0.00	\$625,000.00	\$475,000.00	\$395,833.33	(\$229,166.67)	36.67
Dave Magadan	\$1,448,382.33	\$575,000.00	\$475,000.00	\$637,230.39	\$62,230.39	10.82
Dave Magadan	\$991,430.81	\$575,000.00	\$775,000.00	\$811,071.80	\$236,071.80	41.06
Dave Martinez	\$2,615,980.80	\$1,500,000.00	\$2,000,000.00	\$2,102,663.47	\$602,663.47	40.18
David Cone	\$9,244,878.91	\$12,000,000.00	\$9,500,000.00	\$9,457,479.82	(\$2,542,520.18)	21.19
David Cone	\$5,448,258.07	\$9,500,000.00	\$6,666,667.00	\$6,463,598.85	(\$3,036,401.15)	31.96
David Cone	\$3,231,490.10	\$1,000,000.00	\$12,000,000.00	\$10,538,581.68	\$9,538,581.68	953.86
David Segui	\$5,471,121.69	\$7,000,000.00	\$4,325,000.00	\$4,516,020.28	(\$2,483,979.72)	35.49
David Segui	\$4,061,065.14	\$4,325,000.00	\$2,500,000.00	\$2,760,177.52	(\$1,564,822.48)	36.18
David Weathers	\$3,782,987.16	\$1,833,333.00	\$1,200,000.00	\$1,630,497.86	(\$202,835.14)	11.06
David Weathers	\$0.00	\$650,000.00	\$405,000.00	\$337,500.00	(\$312,500.00)	48.08
David Wells	\$5,744,012.30	\$2,250,000.00	\$9,250,000.00	\$8,665,668.72	\$6,415,668.72	285.14
Dean Palmer	\$4,383,729.48	\$5,000,000.00	\$5,825,000.00	\$5,584,788.25	\$584,788.25	11.70
Delino DeShields	\$5,198,768.51	\$1,250,000.00	\$4,333,667.00	\$4,477,850.58	\$3,227,850.58	258.23
Delino DeShields	\$6,883,744.16	\$3,719,758.00	\$3,000,000.00	\$3,647,290.69	(\$72,467.31)	1.95

Appendix C: Continued

Name	Marginal Revenue	New Salary	Old Salary	Nash Salary	Diff between Nash and Real	Pct Error
Dennis Cook	\$2,274,246.34	\$2,000,000.00	\$850,000.00	\$1,087,374.39	(\$912,625.61)	45.63
Denny Neagle	\$3,289,363.25	\$7,200,000.00	\$4,750,000.00	\$4,506,560.54	(\$2,693,439.46)	37.41
Derek Bell	\$6,272,624.75	\$5,000,000.00	\$5,000,000.00	\$5,212,104.13	\$212,104.13	4.24
Devon White	\$7,133,800.50	\$2,500,000.00	\$3,510,000.00	\$4,113,966.75	\$1,613,966.75	64.56
Dennis Cook	\$1,425,626.03	\$1,250,000.00	\$2,400,000.00	\$2,237,604.34	\$987,604.34	79.01
Doug Brocail	\$3,326,362.51	\$750,000.00	\$2,300,000.00	\$2,471,060.42	\$1,721,060.42	229.47
Jason Schmidt	\$2,104,565.62	\$4,937,500.00	\$3,200,000.00	\$3,017,427.60	(\$1,920,072.40)	38.89
Jay Powell	\$2,045,968.10	\$2,250,000.00	\$1,600,000.00	\$1,674,328.02	(\$575,671.98)	25.59
John Burkett	\$2,959,248.91	\$5,500,000.00	\$1,750,000.00	\$1,951,541.48	(\$3,548,458.52)	64.52
Sterling Hitchcock	\$2,980,695.12	\$6,936,719.00	\$6,000,000.00	\$5,496,782.52	\$560,063.52	11.34
Doug Glanville	\$5,564,560.80	\$4,000,000.00	\$3,016,667.00	\$3,441,315.97	(\$558,684.03)	13.97
Doug Henry	\$1,898,205.74	\$800,000.00	\$725,000.00	\$920,534.29	\$120,534.29	15.07
Doug Henry	\$1,038,630.70	\$1,200,000.00	\$800,000.00	\$839,771.78	(\$360,228.22)	30.02
Doug Jones	\$3,660,950.27	\$400,000.00	\$2,500,000.00	\$2,693,491.71	\$2,293,491.71	573.37
Doug Jones	\$4,402,041.55	\$600,000.00	\$400,000.00	\$1,067,006.92	\$467,006.92	77.83
Ed Sprague	\$2,655,505.05	\$1,300,000.00	\$2,350,000.00	\$2,400,917.51	\$1,100,917.51	84.69
Eddie Perez	\$1,886,941.09	\$500,000.00	\$650,000.00	\$856,156.85	\$356,156.85	71.23
Edgar Martinez	\$9,533,656.20	\$5,400,000.00	\$3,500,000.00	\$4,505,609.37	(\$894,390.63)	16.56
Ellis Burks	\$6,259,836.14	\$5,666,667.00	\$5,500,000.00	\$5,626,639.36	(\$40,027.64)	0.71
Ellis Burks	\$7,969,770.39	\$4,500,000.00	\$4,900,000.00	\$5,411,628.40	\$911,628.40	20.26
Eric Davis	\$4,347,967.54	\$3,420,840.00	\$2,500,000.00	\$2,807,994.59	(\$612,845.41)	17.92
Eric Davis	\$3,771,134.60	\$1,500,000.00	\$4,420,840.00	\$4,312,555.77	\$2,812,555.77	187.50
Eric Young	\$5,128,723.40	\$2,000,000.00	\$4,500,000.00	\$4,604,787.23	\$2,604,787.23	130.24
F.P. Santangelo	\$3,754,532.71	\$750,000.00	\$550,000.00	\$1,084,088.79	\$334,088.79	44.55
FP Santangelo	\$3,529,319.89	\$550,000.00	\$320,000.00	\$854,886.65	\$304,886.65	55.43
Frank Castillo	\$1,006,975.00	\$2,250,000.00	\$375,000.00	\$480,329.17	(\$1,769,670.83)	78.65
Gary DiSarcina	\$4,144,812.78	\$320,000.00	\$3,225,000.00	\$3,378,302.13	\$3,058,302.13	955.72
Gary Gaetti	\$4,175,176.45	\$2,000,000.00	\$170,000.00	\$837,529.41	(\$1,162,470.59)	58.12
Gerald Williams	\$5,586,803.35	\$2,373,439.00	\$1,475,000.00	\$2,160,300.56	(\$213,138.44)	8.98
Glenallen Hill	\$4,243,310.69	\$1,150,000.00	\$325,000.00	\$978,051.78	(\$171,948.22)	14.95
Graeme Lloyd	\$1,159,353.88	\$3,000,000.00	\$1,025,000.00	\$1,047,392.31	(\$1,952,607.69)	65.09
Greg Colbrunn	\$3,462,213.24	\$900,000.00	\$735,000.00	\$1,189,535.54	\$289,535.54	32.17
Greg Myers	\$1,475,672.32	\$1,200,000.00	\$850,000.00	\$954,278.72	(\$245,721.28)	20.48
Greg Norton	\$1,596,861.75	\$450,000.00	\$285,000.00	\$503,643.63	\$53,643.63	11.92
Greg Swindell	\$3,921,778.58	\$1,333,333.00	\$1,300,000.00	\$1,736,963.10	\$403,630.10	30.27
Greg Vaughn	\$10,387,693.22	\$7,097,962.00	\$5,615,428.00	\$6,410,805.54	(\$687,156.46)	9.68
Gregg Jefferies	\$3,886,600.79	\$1,375,000.00	\$6,000,000.00	\$5,647,766.80	\$4,272,766.80	310.75
Gregg Olson	\$3,592,073.00	\$1,250,000.00	\$850,000.00	\$1,307,012.17	\$57,012.17	4.56
Gregg Zaun	\$1,391,105.30	\$1,150,000.00	\$1,150,000.00	\$1,190,184.22	\$40,184.22	3.49
Hal Morris	\$1,104,601.95	\$500,000.00	\$450,000.00	\$559,100.32	\$59,100.32	11.82
Hal Morris	\$3,783,049.74	\$450,000.00	\$1,400,000.00	\$1,797,174.96	\$1,347,174.96	299.37
Harold Baines	\$5,170,950.74	\$1,000,000.00	\$2,000,000.00	\$2,528,491.79	\$1,528,491.79	152.85

Appendix C: Continued

Name	Marginal Revenue	New Salary	Old Salary	Nash Salary	Diff between Nash and Real	Pct Error
Harold Baines	\$4,699,496.20	\$2,000,000.00	\$1,730,000.00	\$2,224,916.03	\$224,916.03	11.25
Heathcliff Slocumb	\$2,988,008.01	\$200,000.00	\$3,000,000.00	\$2,998,001.34	\$2,798,001.34	1399.00
Heathcliff Slocumb	\$395,926.35	\$1,600,000.00	\$200,000.00	\$232,654.39	(\$1,367,345.61)	85.46
Henry Rodriguez	\$6,868,878.50	\$3,700,000.00	\$2,700,000.00	\$3,394,813.08	(\$305,186.92)	8.25
Henry Rodriguez	\$7,485,555.63	\$1,500,000.00	\$4,600,000.00	\$5,080,925.94	\$3,580,925.94	238.73
Hideo Nomo	\$3,960,749.35	\$4,500,000.00	\$4,500,000.00	\$4,410,124.89	(\$89,875.11)	2.00
Hideo Nomo	\$2,343,722.53	\$4,500,000.00	\$1,000,000.00	\$1,223,953.75	(\$3,276,046.25)	72.80
Ismael Valdes	\$2,558,732.16	\$2,500,000.00	\$5,737,500.00	\$5,207,705.36	\$2,707,705.36	108.31
Ismael Valdes	\$2,702,981.45	\$2,500,000.00	\$2,500,000.00	\$2,533,830.24	\$33,830.24	1.35
James Baldwin	\$2,324,829.75	\$1,250,000.00	\$5,950,000.00	\$5,345,804.96	\$4,095,804.96	327.66
Jason Bere	\$899,581.43	\$2,250,000.00	\$800,000.00	\$816,596.90	(\$1,433,403.10)	63.71
Jason Bere	\$318,492.97	\$800,000.00	\$1,200,000.00	\$1,053,082.16	\$253,082.16	31.64
Jason Christiansen	\$1,180,659.16	\$1,733,333.00	\$1,600,000.00	\$1,530,109.86	(\$203,223.14)	11.72
Jason Giambi	\$17,722,456.07	\$10,428,571.00	\$4,103,333.00	\$6,373,186.84	(\$4,055,384.16)	38.89
Jason Isringhausen	\$2,068,083.33	\$2,750,000.00	\$3,300,000.00	\$3,094,680.56	\$344,680.56	12.53
Javy Lopez	\$4,815,777.30	\$6,000,000.00	\$7,750,000.00	\$7,260,962.88	\$1,260,962.88	21.02
Jay Buhner	\$1,379,792.95	\$1,850,000.00	\$1,450,000.00	\$1,438,298.83	(\$411,701.17)	22.25
Jay Buhner	\$5,274,855.54	\$1,450,000.00	\$4,816,804.00	\$4,893,145.92	\$3,443,145.92	237.46
Jeff Brantley	\$713,355.65	\$650,000.00	\$500,000.00	\$535,559.28	(\$114,440.72)	17.61
Jeff Brantley	\$988,103.54	\$500,000.00	\$2,800,000.00	\$2,498,017.26	\$1,998,017.26	399.60
Jeff Conine	\$2,531,696.67	\$2,500,000.00	\$1,960,000.00	\$2,055,282.78	(\$444,717.22)	17.79
Jeff Fassero	\$2,561,114.53	\$2,400,000.00	\$2,000,000.00	\$2,093,519.09	(\$306,480.91)	12.77
Jeff Fassero	\$3,391,319.37	\$2,000,000.00	\$5,016,667.00	\$4,745,775.73	\$2,745,775.73	137.29
Jeff Frye	\$603,571.14	\$1,000,000.00	\$2,500,000.00	\$2,183,928.52	\$1,183,928.52	118.39
Jeff Montgomery	\$2,361,323.54	\$200,000.00	\$2,800,000.00	\$2,726,887.26	\$2,526,887.26	1263.44
Jeff Nelson	\$1,258,902.98	\$3,333,333.00	\$1,916,667.00	\$1,807,039.66	(\$1,526,293.34)	45.79
Jeffrey Hammonds	\$3,277,007.42	\$6,500,000.00	\$3,183,333.00	\$3,198,945.40	(\$3,301,054.60)	50.79
Jerry DiPoto	\$4,208,994.46	\$2,350,000.00	\$2,250,000.00	\$2,576,499.08	\$226,499.08	9.64
Jim Leyritz	\$7,664,092.01	\$1,000,000.00	\$1,900,000.00	\$2,860,682.00	\$1,860,682.00	186.07
Joe Girardi	\$2,186,844.64	\$2,000,000.00	\$3,400,000.00	\$3,197,807.44	\$1,197,807.44	59.89
Joe Oliver	\$1,836,727.40	\$1,100,000.00	\$500,000.00	\$722,787.90	(\$377,212.10)	34.29
Joey Hamilton	\$460,826.87	\$500,000.00	\$7,250,000.00	\$6,118,471.14	\$5,618,471.14	1123.69
John Burkett	\$2,109,103.02	\$1,750,000.00	\$750,000.00	\$976,517.17	(\$773,482.83)	44.20
John Burkett	\$2,943,604.86	\$750,000.00	\$4,000,000.00	\$3,823,934.14	\$3,073,934.14	409.86
John Flaherty	\$3,116,235.53	\$2,947,410.00	\$1,280,000.00	\$1,586,039.25	(\$1,361,370.75)	46.19
John Franco	\$3,558,289.32	\$3,583,333.00	\$3,350,000.00	\$3,384,714.89	(\$198,618.11)	5.54
John Jaha	\$0.00	\$2,750,000.00	\$525,000.00	\$437,500.00	(\$2,312,500.00)	84.09
John Mabry	\$3,152,025.34	\$1,400,000.00	\$1,400,000.00	\$1,692,004.22	\$292,004.22	20.86
John Olerud	\$10,071,810.61	\$6,350,000.00	\$4,250,000.00	\$5,220,301.77	(\$1,129,698.23)	17.79
John Smoltz	\$3,159,146.47	\$7,666,667.00	\$8,000,000.00	\$7,193,191.08	(\$473,475.92)	6.18
John Valentin	\$1,895,569.59	\$550,000.00	\$6,350,000.00	\$5,607,594.93	\$5,057,594.93	919.56
John Vander Wal	\$104,256.57	\$1,075,000.00	\$560,000.00	\$484,042.76	(\$590,957.24)	54.97

Appendix C: Continued

Name	Marginal Revenue	New Salary	Old Salary	Nash Salary	Diff between Nash and Real	Pct Error
Johnny Damon	\$6,318,396.89	\$7,250,000.00	\$7,100,000.00	\$6,969,732.82	(\$280,267.18)	3.87
Jorge Fabregas	\$1,432,609.68	\$500,000.00	\$500,000.00	\$655,434.95	\$155,434.95	31.09
Jose Canseco	\$7,083,145.39	\$3,325,000.00	\$2,125,000.00	\$2,951,357.57	(\$373,642.43)	11.24
Jose Guillen	\$1,342,376.34	\$500,000.00	\$975,000.00	\$1,036,229.39	\$536,229.39	107.25
Jose Hernandez	\$2,603,378.12	\$3,333,333.00	\$2,400,000.00	\$2,433,896.35	(\$899,436.65)	26.98
Jose Mesa	\$1,190,024.83	\$2,900,000.00	\$3,950,000.00	\$3,490,004.14	\$590,004.14	20.34
Jose Mesa	\$3,424,623.24	\$2,850,000.00	\$1,700,000.00	\$1,987,437.21	(\$862,562.79)	30.27
Jose Offerman	\$6,609,955.49	\$4,950,000.00	\$2,000,000.00	\$2,768,325.92	(\$2,181,674.08)	44.07
Jose Valentin	\$4,691,083.74	\$5,166,667.00	\$1,320,000.00	\$1,881,847.29	(\$3,284,819.71)	63.58
Jose Valentin	\$3,597,916.39	\$1,320,000.00	\$3,036,095.00	\$3,129,731.90	\$1,809,731.90	137.10
Jose Vizcaino	\$752,973.41	\$1,700,000.00	\$1,500,000.00	\$1,375,495.57	(\$324,504.43)	19.09
Jose Vizcaino	\$1,460,852.83	\$1,500,000.00	\$3,500,000.00	\$3,160,142.14	\$1,660,142.14	110.68
Juan Gonzalez	\$5,977,490.40	\$11,000,000.00	\$10,000,000.00	\$9,329,581.73	(\$1,670,418.27)	15.19
Juan Gonzalez	\$6,149,143.86	\$10,000,000.00	\$7,500,000.00	\$7,274,857.31	(\$2,725,142.69)	27.25
Juan Guzman	\$3,973,345.51	\$6,000,000.00	\$5,250,000.00	\$5,037,224.25	(\$962,775.75)	16.05
Julian Tavaraz	\$1,667,787.19	\$2,275,000.00	\$1,200,000.00	\$1,277,964.53	(\$997,035.47)	43.83
Keith Lockhart	\$1,889,094.53	\$600,000.00	\$800,000.00	\$981,515.76	\$381,515.76	63.59
Kelly Stinnett	\$1,572,660.01	\$500,000.00	\$1,000,000.00	\$1,095,443.34	\$595,443.34	119.09
Ken Caminiti	\$4,249,032.17	\$3,500,000.00	\$4,500,000.00	\$4,458,172.03	\$958,172.03	27.38
Ken Caminiti	\$7,427,910.23	\$4,500,000.00	\$3,500,000.00	\$4,154,651.70	(\$345,348.30)	7.67
Ken Ryan	\$2,402,600.20	\$600,000.00	\$990,000.00	\$1,225,433.37	\$625,433.37	104.24
Kenny Lofton	\$5,707,075.57	\$1,025,000.00	\$8,000,000.00	\$7,617,845.93	\$6,592,845.93	643.20
Kenny Rogers	\$3,546,404.84	\$7,500,000.00	\$5,000,000.00	\$4,757,734.14	(\$2,742,265.86)	36.56
Kent Bottenfield	\$2,913,396.62	\$2,000,000.00	\$4,000,000.00	\$3,818,899.44	\$1,818,899.44	90.94
Kevin Appier	\$3,336,238.81	\$8,500,000.00	\$5,600,000.00	\$5,222,706.47	(\$3,277,293.53)	38.56
Kevin Brown	\$12,159,323.89	\$10,714,286.00	\$4,935,000.00	\$6,139,053.98	(\$4,575,232.02)	42.70
Kevin Jarvis	\$0.00	\$1,250,000.00	\$550,000.00	\$458,333.33	(\$791,666.67)	63.33
Kevin Jordan	\$1,675,320.46	\$700,000.00	\$1,000,000.00	\$1,112,553.41	\$412,553.41	58.94
Kirt Manwaring	\$1,456,354.56	\$700,000.00	\$2,150,000.00	\$2,034,392.43	\$1,334,392.43	190.63
Lenny Harris	\$395,463.32	\$1,100,000.00	\$1,100,000.00	\$982,577.22	(\$117,422.78)	10.67
Lenny Harris	\$1,710,673.58	\$1,125,000.00	\$775,000.00	\$930,945.60	(\$194,054.40)	17.25
Luis Alicea	\$1,605,292.34	\$800,000.00	\$800,000.00	\$934,215.39	\$134,215.39	16.78
Luis Alicea	\$1,641,897.62	\$800,000.00	\$750,000.00	\$898,649.60	\$98,649.60	12.33
Luis Alicea	\$4,996,178.87	\$750,000.00	\$825,000.00	\$1,520,196.48	\$770,196.48	102.69
Luis Lopez	\$1,063,857.32	\$700,000.00	\$775,000.00	\$823,142.89	\$123,142.89	17.59
Luis Sojo	\$0.00	\$500,000.00	\$450,000.00	\$375,000.00	(\$125,000.00)	25.00
Manny Ramirez	\$9,264,217.30	\$13,050,000.00	\$4,250,000.00	\$5,085,702.88	(\$7,964,297.12)	61.03
Mark Clark	\$3,767,731.30	\$4,000,000.00	\$5,050,000.00	\$4,836,288.55	\$836,288.55	20.91
Mark Gardner	\$2,073,070.55	\$2,000,000.00	\$1,100,000.00	\$1,262,178.43	(\$737,821.57)	36.89
Mark Gardner	\$952,020.21	\$1,750,000.00	\$3,000,000.00	\$2,658,670.03	\$908,670.03	51.92
Mark Grace	\$9,994,004.61	\$3,000,000.00	\$5,300,000.00	\$6,082,334.10	\$3,082,334.10	102.74
Mark Guthrie	\$1,131,503.60	\$1,600,000.00	\$1,600,000.00	\$1,521,917.27	(\$78,082.73)	4.88

Appendix C: Continued

Name	Marginal Revenue	New Salary	Old Salary	Nash Salary	Diff between Nash and Real	Pct Error
Mark Guthrie	\$770,012.19	\$1,800,000.00	\$1,600,000.00	\$1,461,668.70	(\$338,331.30)	18.80
Mark Lewis	\$2,486,354.37	\$600,000.00	\$500,000.00	\$831,059.06	\$231,059.06	38.51
Mark Lewis	\$2,602,879.69	\$500,000.00	\$1,720,000.00	\$1,867,146.62	\$1,367,146.62	273.43
Mark McLemore	\$3,293,578.05	\$3,150,000.00	\$2,000,000.00	\$2,215,596.34	(\$934,403.66)	29.66
Mark McLemore	\$3,515,763.75	\$2,000,000.00	\$2,400,000.00	\$2,585,960.62	\$585,960.62	29.30
Mark Petkovsek	\$2,133,420.04	\$2,050,000.00	\$1,512,500.00	\$1,615,986.67	(\$434,013.33)	21.17
Mark Portugal	\$1,883,561.50	\$2,700,000.00	\$2,350,000.00	\$2,272,260.25	(\$427,739.75)	15.84
Mark Whiten	\$4,036,417.57	\$450,000.00	\$200,000.00	\$839,402.93	\$389,402.93	86.53
Mark Wohlers	\$322,655.38	\$600,000.00	\$500,000.00	\$470,442.56	(\$129,557.44)	21.59
Marty Cordova	\$1,640,237.22	\$500,000.00	\$3,000,000.00	\$2,773,372.87	\$2,273,372.87	454.67
Marty Cordova	\$2,508,704.89	\$2,500,000.00	\$500,000.00	\$834,784.15	(\$1,665,215.85)	66.61
Matt Stairs	\$4,201,207.99	\$500,000.00	\$3,200,000.00	\$3,366,868.00	\$2,866,868.00	573.37
Midre Cummings	\$321,437.63	\$425,000.00	\$300,000.00	\$303,572.94	(\$121,427.06)	28.57
Miguel Batista	\$1,442,815.13	\$400,000.00	\$325,000.00	\$511,302.52	\$111,302.52	27.83
Mike Benjamin	\$923,115.99	\$700,000.00	\$242,500.00	\$355,936.00	(\$344,064.00)	49.15
Mike Bordick	\$5,877,626.97	\$4,500,000.00	\$3,000,000.00	\$3,479,604.49	(\$1,020,395.51)	22.68
Mike Fetters	\$441.13	\$1,725,000.00	\$550,000.00	\$458,406.85	(\$1,266,593.15)	73.43
Mike Hampton	\$6,017,344.90	\$10,500,000.00	\$5,750,000.00	\$5,794,557.48	(\$4,705,442.52)	44.81
Mike Holtz	\$206,923.08	\$825,000.00	\$705,000.00	\$621,987.18	(\$203,012.82)	24.61
Mike Jackson	\$4,284,083.14	\$3,000,000.00	\$2,100,000.00	\$2,464,013.86	(\$535,986.14)	17.87
Mike Jackson	\$1,518,889.89	\$500,000.00	\$750,000.00	\$878,148.32	\$378,148.32	75.63
Mike Jackson	\$2,913,396.62	\$750,000.00	\$3,000,000.00	\$2,985,566.10	\$2,235,566.10	298.08
Mike James	\$316,458.75	\$500,000.00	\$1,525,000.00	\$1,323,576.46	\$823,576.46	164.72
Mike MacFarlane	\$4,382,864.52	\$600,000.00	\$725,000.00	\$1,334,644.09	\$734,644.09	122.44
Mike Magnante	\$1,333,129.26	\$900,000.00	\$775,000.00	\$868,021.54	(\$31,978.46)	3.55
Mike Magnante	\$970,917.32	\$775,000.00	\$600,000.00	\$661,819.55	(\$113,180.45)	14.60
Mike Matheny	\$1,137,411.75	\$600,000.00	\$800,000.00	\$856,235.29	\$256,235.29	42.71
Mike Matheny	\$1,177,761.24	\$750,000.00	\$600,000.00	\$696,293.54	(\$53,706.46)	7.16
Mike Mohler	\$1,119,487.71	\$490,000.00	\$525,000.00	\$624,081.29	\$134,081.29	27.36
Mike Morgan	\$2,860,794.15	\$750,000.00	\$700,000.00	\$1,060,132.36	\$310,132.36	41.35
Mike Munoz	\$715,534.27	\$750,000.00	\$450,000.00	\$494,255.71	(\$255,744.29)	34.10
Mike Mussina	\$8,571,498.48	\$10,000,000.00	\$6,786,032.00	\$7,083,609.75	(\$2,916,390.25)	29.16
Mike Piazza	\$20,763,988.23	\$7,171,428.00	\$8,000,000.00	\$10,127,331.37	\$2,955,903.37	41.22
Mike Stanton	\$3,638,775.38	\$2,400,000.00	\$2,016,667.00	\$2,287,018.40	(\$112,981.60)	4.71
Mike Timlin	\$4,395,009.24	\$2,250,000.00	\$3,025,000.00	\$3,253,334.87	\$1,003,334.87	44.59
Mike Trombley	\$3,091,263.45	\$2,250,000.00	\$1,500,000.00	\$1,765,210.57	(\$484,789.43)	21.55
Mike Williams	\$2,494,746.52	\$2,000,000.00	\$1,200,000.00	\$1,415,791.09	(\$584,208.91)	29.21
Mo Vaughn	\$11,658,856.81	\$7,166,666.00	\$6,650,000.00	\$7,484,809.47	\$318,143.47	4.44
Moises Alou	\$3,996,381.99	\$6,000,000.00	\$5,250,000.00	\$5,041,063.67	(\$958,936.33)	15.98
Omar Olivares	\$2,451,462.16	\$4,000,000.00	\$1,825,000.00	\$1,929,410.36	(\$2,070,589.64)	51.76
Orel Hershiser	\$5,434,299.91	\$2,500,000.00	\$3,720,000.00	\$4,005,716.65	\$1,505,716.65	60.23
Orel Hershiser	\$3,754,532.71	\$2,000,000.00	\$2,500,000.00	\$2,709,088.79	\$709,088.79	35.45

Appendix C: Continued

Name	Marginal Revenue	New Salary	Old Salary	Nash Salary	Diff between Nash and Real	Pct Error
Orlando Merced	\$322,886.91	\$1,050,000.00	\$300,000.00	\$303,814.48	(\$746,185.52)	71.07
Otis Nixon	\$4,343,633.72	\$1,500,000.00	\$2,000,000.00	\$2,390,605.62	\$890,605.62	59.37
Ozzie Guillen	\$3,504,580.63	\$550,000.00	\$170,000.00	\$725,763.44	\$175,763.44	31.96
Pat Hentgen	\$3,430,770.36	\$4,500,000.00	\$6,000,000.00	\$5,571,795.06	\$1,071,795.06	23.82
Pat Mahomes	\$713,355.65	\$500,000.00	\$750,000.00	\$743,892.61	\$243,892.61	48.78
Pat Meares	\$2,959,797.61	\$1,500,000.00	\$2,500,000.00	\$2,576,632.93	\$1,076,632.93	71.78
Pat Rapp	\$2,798,071.18	\$750,000.00	\$1,650,000.00	\$1,841,345.20	\$1,091,345.20	145.51
Pat Rapp	\$2,700,321.23	\$2,000,000.00	\$750,000.00	\$1,075,053.54	(\$924,946.46)	46.25
Pat Rapp	\$1,633,054.42	\$1,650,000.00	\$800,000.00	\$938,842.40	(\$711,157.60)	43.10
Paul O'Neill	\$12,613,670.67	\$7,250,000.00	\$6,500,000.00	\$7,518,945.11	\$268,945.11	3.71
Pedro Astacio	\$6,412,879.05	\$4,000,000.00	\$6,850,000.00	\$6,777,146.51	\$2,777,146.51	69.43
Pete Schourek	\$410,936.15	\$2,000,000.00	\$1,600,000.00	\$1,401,822.69	(\$598,177.31)	29.91
Pete Schourek	\$704,757.59	\$200,000.00	\$2,000,000.00	\$1,784,126.27	\$1,584,126.27	792.06
Rafael Palmiero	\$8,899,251.16	\$8,849,931.00	\$6,515,828.00	\$6,913,065.19	(\$1,936,865.81)	21.89
Ramon Martinez	\$1,606,941.68	\$300,000.00	\$6,320,000.00	\$5,534,490.28	\$5,234,490.28	1744.83
Ramon Martinez	\$3,133,435.46	\$1,500,000.00	\$4,800,000.00	\$4,522,239.24	\$3,022,239.24	201.48
Randy Johnson	\$10,308,549.47	\$9,700,000.00	\$6,000,000.00	\$6,718,091.58	(\$2,981,908.42)	30.74
Randy Velarde	\$3,744,817.63	\$1,600,000.00	\$850,000.00	\$1,332,469.61	(\$267,530.39)	16.72
Randy Velarde	\$4,311,404.66	\$1,000,000.00	\$3,150,000.00	\$3,343,567.44	\$2,343,567.44	234.36
Randy Velarde	\$0.00	\$3,050,000.00	\$1,600,000.00	\$1,333,333.33	(\$1,716,666.67)	56.28
Reggie Sanders	\$4,677,541.10	\$1,750,000.00	\$1,500,000.00	\$2,029,590.18	\$279,590.18	15.98
Reggie Sanders	\$5,740,010.53	\$1,500,000.00	\$3,700,000.00	\$4,040,001.75	\$2,540,001.75	169.33
Rey Sanchez	\$1,501,265.24	\$2,300,000.00	\$1,200,000.00	\$1,250,210.87	(\$1,049,789.13)	45.64
Rey Sanchez	\$1,727,756.50	\$1,200,000.00	\$500,000.00	\$704,626.08	(\$495,373.92)	41.28
Rheal Cormier	\$714,882.52	\$2,583,333.00	\$2,000,000.00	\$1,785,813.75	(\$797,519.25)	30.87
Rich Amaral	\$1,103,893.82	\$500,000.00	\$550,000.00	\$642,315.64	\$142,315.64	28.46
Rich Becker	\$2,865,977.77	\$475,000.00	\$1,550,000.00	\$1,769,329.63	\$1,294,329.63	272.49
Rich Becker	\$2,927,890.87	\$500,000.00	\$475,000.00	\$883,815.14	\$383,815.14	76.76
Rich Rodriguez	\$1,886,442.62	\$600,000.00	\$730,000.00	\$922,740.44	\$322,740.44	53.79
Rick Helling	\$5,179,005.20	\$3,000,000.00	\$4,500,000.00	\$4,613,167.53	\$1,613,167.53	53.77
Rick Reed	\$6,735,394.27	\$6,750,000.00	\$4,375,000.00	\$4,768,399.04	(\$1,981,600.96)	29.36
Rickey Henderson	\$8,963,108.21	\$1,900,000.00	\$1,150,000.00	\$2,452,184.70	\$552,184.70	29.06
Ricky Bottalico	\$1,071,329.22	\$1,500,000.00	\$1,500,000.00	\$1,428,554.87	(\$71,445.13)	4.76
Ricky Bottalico	\$1,600,534.59	\$1,500,000.00	\$1,500,000.00	\$1,516,755.77	\$16,755.77	1.12
Ricky Bottalico	\$1,086,716.67	\$1,500,000.00	\$2,300,000.00	\$2,097,786.11	\$597,786.11	39.85
Ricky Gutierrez	\$3,633,088.81	\$2,166,667.00	\$3,400,000.00	\$3,438,848.14	\$1,272,181.14	58.72
Ricky Gutierrez	\$2,594,908.19	\$2,500,000.00	\$2,212,500.00	\$2,276,234.70	(\$223,765.30)	8.95
Rico Brogna	\$3,527,183.74	\$1,500,000.00	\$4,200,000.00	\$4,087,863.96	\$2,587,863.96	172.52
Rob Ducey	\$248,278.75	\$500,000.00	\$400,000.00	\$374,713.13	(\$125,286.87)	25.06
Rob Ducey	\$399,961.86	\$400,000.00	\$375,000.00	\$379,160.31	(\$20,839.69)	5.21
Robert Fick	\$0.00	\$1,150,000.00	\$255,000.00	\$212,500.00	(\$937,500.00)	81.52
Roberto Alomar	\$9,310,674.21	\$7,049,966.00	\$6,343,771.00	\$6,838,254.87	(\$211,711.13)	3.00

Appendix C: Continued

Name	Marginal Revenue	New Salary	Old Salary	Nash Salary	Diff between Nash and Real	Pct Error
Robin Ventura	\$8,592,790.88	\$7,000,000.00	\$6,100,000.00	\$6,515,465.15	(\$484,534.85)	6.92
Rod Beck	\$3,764,642.78	\$5,500,000.00	\$3,600,000.00	\$3,627,440.46	(\$1,872,559.54)	34.05
Roger Cedeno	\$6,225,506.71	\$2,375,000.00	\$2,700,000.00	\$3,287,584.45	\$912,584.45	38.42
Ron Coomer	\$2,561,114.53	\$1,100,000.00	\$1,500,000.00	\$1,676,852.42	\$576,852.42	52.44
Ron Gant	\$4,721,133.23	\$1,750,000.00	\$5,066,667.00	\$5,009,078.04	\$3,259,078.04	186.23
Ron Gant	\$2,023,799.18	\$500,000.00	\$1,750,000.00	\$1,795,633.20	\$1,295,633.20	259.13
Rondell White	\$6,608,675.89	\$4,500,000.00	\$4,000,000.00	\$4,434,779.32	(\$65,220.68)	1.45
Royce Clayton	\$4,606,368.44	\$4,500,000.00	\$3,500,000.00	\$3,684,394.74	(\$815,605.26)	18.12
Rudy Seanez	\$444.63	\$1,650,000.00	\$775,000.00	\$645,907.44	(\$1,004,092.56)	60.85
Sandy Alomar Jr	\$1,978,566.99	\$2,900,000.00	\$2,700,000.00	\$2,579,761.16	(\$320,238.84)	11.04
Scott Brosius	\$3,518,565.10	\$5,250,000.00	\$2,650,000.00	\$2,794,760.85	(\$2,455,239.15)	46.77
Scott Kamieniecki	\$1,466,399.78	\$1,850,000.00	\$3,350,000.00	\$3,036,066.63	\$1,186,066.63	64.11
Scott Karl	\$1,342,999.49	\$625,000.00	\$3,700,000.00	\$3,307,166.58	\$2,682,166.58	429.15
Scott Radinsky	\$1,930,379.11	\$2,500,000.00	\$900,000.00	\$1,071,729.85	(\$1,428,270.15)	57.13
Scott Sanders	\$1,597,317.40	\$825,000.00	\$1,700,000.00	\$1,682,886.23	\$857,886.23	103.99
Scott Service	\$1,454,014.24	\$500,000.00	\$745,000.00	\$863,169.04	\$363,169.04	72.63
Scott Spiezio	\$3,694,515.86	\$600,000.00	\$260,000.00	\$832,419.31	\$232,419.31	38.74
Sean Berry	\$2,782,295.69	\$1,050,000.00	\$1,000,000.00	\$1,297,049.28	\$247,049.28	23.53
Shawon Dunston	\$1,930,379.11	\$610,000.00	\$1,000,000.00	\$1,155,063.19	\$545,063.19	89.35
Shawon Dunston	\$946,445.85	\$1,000,000.00	\$600,000.00	\$657,740.97	(\$342,259.03)	34.23
Shigetoshi Hasegawa	\$1,675,616.34	\$1,500,000.00	\$1,500,000.00	\$1,529,269.39	\$29,269.39	1.95
Stan Javier	\$4,117,661.00	\$1,500,000.00	\$1,750,000.00	\$2,144,610.17	\$644,610.17	42.97
Steve Avery	\$1,044,664.53	\$750,000.00	\$3,900,000.00	\$3,424,110.75	\$2,674,110.75	356.55
Steve Finley	\$13,244,804.96	\$5,375,000.00	\$3,400,000.00	\$5,040,800.83	(\$334,199.17)	6.22
Steve Karsay	\$4,877,904.95	\$4,000,000.00	\$2,700,000.00	\$3,062,984.16	(\$937,015.84)	23.43
Steve Reed	\$845,846.15	\$500,000.00	\$1,600,000.00	\$1,474,307.69	\$974,307.69	194.86
Steve Trachsel	\$4,511,911.97	\$1,000,000.00	\$5,250,000.00	\$5,126,985.33	\$4,126,985.33	412.70
Steve Trachsel	\$5,289,169.13	\$3,000,000.00	\$1,000,000.00	\$1,714,861.52	(\$1,285,138.48)	42.84
T.J. Mathews	\$1,177,556.13	\$1,000,000.00	\$1,900,000.00	\$1,779,592.69	\$779,592.69	77.96
Terry Adams	\$2,117,067.75	\$2,700,000.00	\$2,600,000.00	\$2,519,511.29	(\$180,488.71)	6.68
Terry Mulholland	\$3,339,426.41	\$2,750,000.00	\$2,975,000.00	\$3,035,737.74	\$285,737.74	10.39
Terry Mulholland	\$1,209,621.36	\$2,925,000.00	\$600,000.00	\$701,603.56	(\$2,223,396.44)	76.01
Terry Shumpert	\$0.00	\$650,000.00	\$220,000.00	\$183,333.33	(\$466,666.67)	71.79
Terry Steinbach	\$5,185,122.82	\$1,000,000.00	\$2,850,000.00	\$3,239,187.14	\$2,239,187.14	223.92
Thomas Howard	\$99,004.53	\$650,000.00	\$325,000.00	\$287,334.09	(\$362,665.91)	55.79
Tim Belcher	\$4,570,765.92	\$750,000.00	\$4,600,000.00	\$4,595,127.65	\$3,845,127.65	512.68
Tim Belcher	\$6,746,816.84	\$4,650,000.00	\$2,300,000.00	\$3,041,136.14	(\$1,608,863.86)	34.60
Tim Bogar	\$742,377.10	\$700,000.00	\$725,000.00	\$727,896.18	\$27,896.18	3.99
Tim Raines	\$3,256,360.87	\$600,000.00	\$1,300,000.00	\$1,626,060.14	\$1,026,060.14	171.01
Tim Wakefield	\$3,373,723.06	\$3,000,000.00	\$4,500,000.00	\$4,312,287.18	\$1,312,287.18	43.74
Tim Worrell	\$259,363.87	\$1,300,000.00	\$700,000.00	\$626,560.65	(\$673,439.35)	51.80
Tino Martinez	\$4,036,341.15	\$5,750,000.00	\$6,300,000.00	\$5,922,723.53	\$172,723.53	3.00

Appendix C: Continued

Name	Marginal Revenue	New Salary	Old Salary	Nash Salary	Diff between Nash and Real	Pct Error
Todd Hollandsworth	\$1,610,603.31	\$2,750,000.00	\$1,450,000.00	\$1,476,767.22	(\$1,273,232.78)	46.30
Todd Hundley	\$2,688,479.22	\$3,500,000.00	\$6,125,000.00	\$5,552,246.54	\$2,052,246.54	58.64
Todd Jones	\$2,308,813.18	\$1,000,000.00	\$3,975,000.00	\$3,697,302.20	\$2,697,302.20	269.73
Todd Pratt	\$1,596,783.54	\$650,000.00	\$600,000.00	\$766,130.59	\$116,130.59	17.87
Todd Stottlemyre	\$8,265,114.83	\$8,000,000.00	\$4,900,000.00	\$5,460,852.47	(\$2,539,147.53)	31.74
Todd Van Poppel	\$1,252,411.34	\$2,000,000.00	\$850,000.00	\$917,068.56	(\$1,082,931.44)	54.15
Todd Zeile	\$9,360,565.45	\$4,333,333.00	\$3,200,000.00	\$4,226,760.91	(\$106,572.09)	2.46
Tom Candiotti	\$2,349,509.10	\$3,000,000.00	\$2,850,000.00	\$2,766,584.85	(\$233,415.15)	7.78
Tom Goodwin	\$2,934,103.91	\$3,416,667.00	\$3,225,000.00	\$3,176,517.32	(\$240,149.68)	7.03
Tom Gordon	\$2,051,023.37	\$2,000,000.00	\$3,750,000.00	\$3,466,837.23	\$1,466,837.23	73.34
Tom Lampkin	\$1,896,516.74	\$1,100,000.00	\$950,000.00	\$1,107,752.79	\$7,752.79	0.70
Tom Lampkin	\$1,785,570.94	\$625,000.00	\$500,000.00	\$714,261.82	\$89,261.82	14.28
Tom Prince	\$666,042.24	\$300,000.00	\$350,000.00	\$402,673.71	\$102,673.71	34.22
Tony Eusebio	\$635,631.62	\$1,100,000.00	\$900,000.00	\$855,938.60	(\$244,061.40)	22.19
Tony Gwynn	\$6,124,349.24	\$2,000,000.00	\$6,300,000.00	\$6,270,724.87	\$4,270,724.87	213.54
Tony Phillips	\$5,809,975.91	\$700,000.00	\$560,000.00	\$1,434,995.98	\$734,995.98	105.00
Turk Wendell	\$5,340,071.72	\$3,100,000.00	\$2,050,014.00	\$2,598,356.95	(\$501,643.05)	16.18
Tyler Houston	\$872,128.99	\$835,000.00	\$715,000.00	\$741,188.17	(\$93,811.83)	11.23
Vinny Castilla	\$3,003,609.35	\$3,000,000.00	\$7,250,000.00	\$6,542,268.22	\$3,542,268.22	118.08
Wally Joyner	\$5,142,016.84	\$2,841,680.00	\$3,750,000.00	\$3,982,002.81	\$1,140,322.81	40.13
Wilfredo Cordero	\$1,943,932.69	\$2,166,667.00	\$500,000.00	\$740,655.45	(\$1,426,011.55)	65.82
Will Clark	\$6,418,319.31	\$4,920,840.00	\$5,812,595.00	\$5,913,549.05	\$992,709.05	20.17
Willie Greene	\$3,395,334.78	\$1,000,000.00	\$1,750,000.00	\$2,024,222.46	\$1,024,222.46	102.42
Willie Greene	\$4,086,133.55	\$395,000.00	\$1,000,000.00	\$1,514,355.59	\$1,119,355.59	283.38
Willie McGee	\$2,657,940.25	\$1,000,000.00	\$1,400,000.00	\$1,609,656.71	\$609,656.71	60.97
Wilton Guerrero	\$1,136,979.76	\$400,000.00	\$825,000.00	\$876,996.63	\$476,996.63	119.25

Appendix D: Nash Predicted Salary w/ 11.89% Player Rate (w/ Outliers Excluded)

Name	Marginal Revenue	New Salary	Old Salary	Nash Salary	Diff between Nash and Real	Pct Error
Aaron Sele	\$5,102,312.30	\$7,166,667.00	\$7,000,000.00	\$6,617,612.99	(\$549,054.01)	7.66
Aaron Sele	\$3,756,668.40	\$7,500,000.00	\$5,525,000.00	\$5,168,678.44	(\$2,331,321.56)	31.08
Al Leiter	\$5,343,345.51	\$5,250,000.00	\$3,000,000.00	\$3,472,187.75	(\$1,777,812.25)	33.86
Alan Embree	\$677,010.24	\$500,000.00	\$2,400,000.00	\$2,052,814.90	\$1,552,814.90	310.56
Alan Mills	\$1,709,598.47	\$1,250,000.00	\$1,000,000.00	\$1,142,985.19	(\$107,014.81)	8.56
Albert Belle	\$12,884,884.82	\$11,949,794.00	\$10,000,000.00	\$10,581,308.76	(\$1,368,485.24)	11.45
Albie Lopez	\$2,754,361.71	\$4,000,000.00	\$2,975,000.00	\$2,930,541.04	(\$1,069,458.96)	26.74
Alex Arias	\$1,075,150.03	\$550,000.00	\$550,000.00	\$655,818.55	\$105,818.55	19.24
Alex Cora	\$428,776.61	\$625,000.00	\$240,000.00	\$278,038.78	(\$346,961.22)	55.51
Alex Gonzalez	\$1,217,735.69	\$4,250,000.00	\$295,000.00	\$480,932.67	(\$3,769,067.33)	88.68
Alex Rodriguez	\$10,153,614.33	\$22,000,000.00	\$4,362,500.00	\$5,529,418.51	(\$16,470,581.49)	74.87
Allen Watson	\$2,301,934.16	\$1,300,000.00	\$200,000.00	\$623,542.99	(\$676,457.01)	52.04
Alvin Morman	\$306.03	\$365,000.00	\$220,000.00	\$175,731.32	(\$189,268.68)	51.85
Andres Galarraga	\$4,716,859.49	\$6,000,000.00	\$8,500,000.00	\$7,737,691.33	\$1,737,691.33	28.96
Andy Ashby	\$4,799,864.51	\$6,000,000.00	\$5,900,000.00	\$5,678,321.00	(\$321,679.00)	5.36
Andy Benes	\$1,861,786.71	\$2,867,542.00	\$6,000,000.00	\$5,166,143.61	\$2,298,601.61	80.16
Armando Reynoso	\$3,921,778.58	\$1,625,000.00	\$1,250,000.00	\$1,788,367.52	\$163,367.52	10.05
Armando Reynoso	\$2,581,354.47	\$2,000,000.00	\$3,375,000.00	\$3,215,079.20	\$1,215,079.20	60.75
Arthur Rhodes	\$1,945,096.53	\$2,750,000.00	\$2,200,000.00	\$2,148,636.56	(\$601,363.44)	21.87
Benito Santiago	\$1,710,997.63	\$2,044,168.00	\$500,000.00	\$744,017.90	(\$1,300,150.10)	63.60
Benito Santiago	\$3,451,524.01	\$1,700,000.00	\$4,000,000.00	\$3,889,481.24	\$2,189,481.24	128.79
Bernie Williams	\$13,682,663.13	\$9,857,143.00	\$8,300,000.00	\$9,384,614.96	(\$472,528.04)	4.79
Bill Haselman	\$883,200.84	\$650,000.00	\$625,000.00	\$677,027.87	\$27,027.87	4.16
BJ Surhoff	\$8,921,507.92	\$3,705,516.00	\$1,716,667.00	\$3,168,453.60	(\$537,062.40)	14.49
Bobby Bonilla	\$678,213.37	\$900,000.00	\$200,000.00	\$296,360.73	(\$603,639.27)	67.07
Brent Mayne	\$3,055,654.33	\$1,750,000.00	\$750,000.00	\$1,214,592.92	(\$535,407.08)	30.59
Bret Boone	\$4,899,094.13	\$3,250,000.00	\$3,750,000.00	\$3,981,544.25	\$731,544.25	22.51
Brian Bohanon	\$1,972,951.60	\$2,110,000.00	\$350,000.00	\$677,027.26	(\$1,432,972.74)	67.91
Brian Hunter	\$3,298,592.80	\$300,000.00	\$375,000.00	\$964,108.48	\$664,108.48	221.37
Brian Johnson	\$1,185,180.59	\$550,000.00	\$775,000.00	\$857,652.02	\$307,652.02	55.94
Brian Jordan	\$6,643,723.89	\$4,600,000.00	\$3,700,000.00	\$4,293,164.92	(\$306,835.08)	6.67
Brian L. Hunter	\$1,070,724.89	\$1,000,000.00	\$900,000.00	\$934,401.33	(\$65,598.67)	6.56
Brian L. Hunter	\$1,664,210.96	\$900,000.00	\$300,000.00	\$574,890.62	(\$325,109.38)	36.12
Brian Williams	\$411,677.39	\$600,000.00	\$375,000.00	\$382,390.55	(\$217,609.45)	36.27
Buddy Groom	\$1,033,760.19	\$1,750,000.00	\$850,000.00	\$887,027.96	(\$862,972.04)	49.31
Butch Henry	\$825,576.59	\$1,500,000.00	\$1,367,500.00	\$1,258,301.59	(\$241,698.41)	16.11
Cal Eldred	\$0.00	\$750,000.00	\$5,400,000.00	\$4,311,891.64	\$3,561,891.64	474.92
Cal Ripken Jr	\$5,414,961.39	\$6,300,000.00	\$6,300,000.00	\$6,121,663.35	(\$178,336.65)	2.83
Carlos Hernandez	\$0.00	\$1,250,000.00	\$700,000.00	\$558,948.92	(\$691,051.08)	55.28
Chad Kreuter	\$1,221,063.16	\$875,000.00	\$710,000.00	\$812,980.02	(\$62,019.98)	7.09
Chad Krueter	\$1,178,176.87	\$900,000.00	\$500,000.00	\$636,653.69	(\$263,346.31)	29.26
Chan Ho Park	\$4,187,600.09	\$6,884,803.00	\$9,900,000.00	\$8,748,942.57	\$1,864,139.57	27.08

Appendix D: Continued

Name	Marginal Revenue	New Salary	Old Salary	Nash Salary	Diff between Nash and Real	Pct Error
Charles Johnson	\$2,873,617.77	\$5,000,000.00	\$4,600,000.00	\$4,252,131.31	(\$747,868.69)	14.96
Chris Gomez	\$460,368.04	\$1,000,000.00	\$3,000,000.00	\$2,488,260.23	\$1,488,260.23	148.83
Chris Stynes	\$2,290,133.25	\$1,250,000.00	\$1,300,000.00	\$1,499,513.38	\$249,513.38	19.96
Chuck Finley	\$4,743,379.51	\$7,911,948.00	\$5,800,000.00	\$5,587,089.33	(\$2,324,858.67)	29.38
Chuck Knoblauch	\$3,775,913.85	\$2,000,000.00	\$6,000,000.00	\$5,551,843.20	\$3,551,843.20	177.59
Craig Grebeck	\$0.00	\$550,000.00	\$415,000.00	\$331,376.86	(\$218,623.14)	39.75
Craig Grebeck	\$1,787,492.91	\$700,000.00	\$800,000.00	\$998,981.35	\$298,981.35	42.71
Craig Paquette	\$3,271,809.73	\$2,125,000.00	\$1,500,000.00	\$1,857,022.40	(\$267,977.60)	12.61
Dan Miceli	\$1,025,224.31	\$1,000,000.00	\$2,000,000.00	\$1,803,581.19	\$803,581.19	80.36
Dan Plesac	\$754,107.05	\$2,200,000.00	\$1,500,000.00	\$1,349,701.42	(\$850,298.58)	38.65
Dan Wilson	\$5,401,016.25	\$4,000,000.00	\$3,625,000.00	\$3,982,870.02	(\$17,129.98)	0.43
Danny Bautista	\$2,867,073.91	\$2,000,000.00	\$675,000.00	\$1,116,706.29	(\$883,293.71)	44.16
Danny Graves	\$5,009,591.94	\$3,525,000.00	\$2,100,000.00	\$2,686,287.28	(\$838,712.72)	23.79
Darren Bragg	\$2,940,429.99	\$800,000.00	\$367,500.00	\$885,949.38	\$85,949.38	10.74
Darren Bragg	\$3,177,150.59	\$750,000.00	\$800,000.00	\$1,278,999.53	\$528,999.53	70.53
Darren Dreifort	\$3,239,251.71	\$9,400,000.00	\$3,700,000.00	\$3,607,158.51	(\$5,792,841.49)	61.63
Darren Lewis	\$254,666.35	\$2,100,000.00	\$500,000.00	\$450,564.89	(\$1,649,435.11)	78.54
Darren Lewis	\$1,376,271.22	\$500,000.00	\$2,500,000.00	\$2,273,566.91	\$1,773,566.91	354.71
Darren Oliver	\$3,075,707.61	\$5,000,000.00	\$3,550,000.00	\$3,454,429.35	(\$1,545,570.65)	30.91
Darrin Fletcher	\$2,363,586.34	\$3,525,000.00	\$2,500,000.00	\$2,472,512.44	(\$1,052,487.56)	29.86
Darryl Hamilton	\$4,011,246.15	\$3,613,333.00	\$2,750,000.00	\$3,004,143.05	(\$609,189.95)	16.86
Darryl Kile	\$1,542,595.83	\$6,666,667.00	\$7,417,981.00	\$6,234,081.79	(\$432,585.21)	6.49
Dave Burba	\$3,175,361.04	\$2,000,000.00	\$5,000,000.00	\$4,632,332.42	\$2,632,332.42	131.62
Dave Hansen	\$987,208.39	\$475,000.00	\$450,000.00	\$558,248.32	\$83,248.32	17.53
Dave Hansen	\$0.00	\$625,000.00	\$475,000.00	\$379,286.76	(\$245,713.24)	39.31
Dave Magadan	\$1,448,382.33	\$575,000.00	\$475,000.00	\$671,138.05	\$96,138.05	16.72
Dave Magadan	\$991,430.81	\$575,000.00	\$775,000.00	\$818,611.14	\$243,611.14	42.37
Dave Martinez	\$2,615,980.80	\$1,500,000.00	\$2,000,000.00	\$2,124,121.09	\$624,121.09	41.61
David Cone	\$9,244,878.91	\$12,000,000.00	\$9,500,000.00	\$9,448,592.70	(\$2,551,407.30)	21.26
David Cone	\$5,448,258.07	\$9,500,000.00	\$6,666,667.00	\$6,421,155.71	(\$3,078,844.29)	32.41
David Segui	\$5,471,121.69	\$7,000,000.00	\$4,325,000.00	\$4,555,945.30	(\$2,444,054.70)	34.92
David Segui	\$4,061,065.14	\$4,325,000.00	\$2,500,000.00	\$2,814,557.04	(\$1,510,442.96)	34.92
David Weathers	\$3,782,987.16	\$1,833,333.00	\$1,200,000.00	\$1,720,475.91	(\$112,857.09)	6.16
David Weathers	\$0.00	\$650,000.00	\$405,000.00	\$323,391.87	(\$326,608.13)	50.25
David Wells	\$5,744,012.30	\$2,250,000.00	\$9,250,000.00	\$8,543,538.05	\$6,293,538.05	279.71
Dean Palmer	\$4,383,729.48	\$5,000,000.00	\$5,825,000.00	\$5,534,581.76	\$534,581.76	10.69
Delino DeShields	\$6,883,744.16	\$3,719,758.00	\$3,000,000.00	\$3,782,580.46	\$62,822.46	1.69
Delino DeShields	\$5,198,768.51	\$1,250,000.00	\$4,333,667.00	\$4,507,986.29	\$3,257,986.29	260.64
Dennis Cook	\$2,274,246.34	\$2,000,000.00	\$850,000.00	\$1,136,987.84	(\$863,012.16)	43.15
Dennis Cook	\$1,425,626.03	\$1,250,000.00	\$2,400,000.00	\$2,203,662.14	\$953,662.14	76.29
Denny Neagle	\$3,289,363.25	\$7,200,000.00	\$4,750,000.00	\$4,455,679.43	(\$2,744,320.57)	38.12
Derek Bell	\$6,272,624.75	\$5,000,000.00	\$5,000,000.00	\$5,256,435.86	\$256,435.86	5.13

Appendix D: Continued

Name	Marginal Revenue	New Salary	Old Salary	Nash Salary	Diff between Nash and Real	Pct Error
Devon White	\$7,133,800.50	\$2,500,000.00	\$3,510,000.00	\$4,240,201.41	\$1,740,201.41	69.61
Doug Brocaill	\$3,326,362.51	\$750,000.00	\$2,300,000.00	\$2,506,813.63	\$1,756,813.63	234.24
Doug Glanville	\$5,564,560.80	\$4,000,000.00	\$3,016,667.00	\$3,530,071.55	(\$469,928.45)	11.75
Doug Henry	\$1,898,205.74	\$800,000.00	\$725,000.00	\$961,402.77	\$161,402.77	20.18
Doug Henry	\$1,038,630.70	\$1,200,000.00	\$800,000.00	\$848,084.45	(\$351,915.55)	29.33
Doug Jones	\$4,402,041.55	\$600,000.00	\$400,000.00	\$1,206,417.57	\$606,417.57	101.07
Ed Sprague	\$2,655,505.05	\$1,300,000.00	\$2,350,000.00	\$2,411,559.74	\$1,111,559.74	85.50
Eddie Perez	\$1,886,941.09	\$500,000.00	\$650,000.00	\$899,245.55	\$399,245.55	79.85
Edgar Martinez	\$9,533,656.20	\$5,400,000.00	\$3,500,000.00	\$4,715,791.07	(\$684,208.93)	12.67
Ellis Burks	\$6,259,836.14	\$5,666,667.00	\$5,500,000.00	\$5,653,108.16	(\$13,558.84)	0.24
Ellis Burks	\$7,969,770.39	\$4,500,000.00	\$4,900,000.00	\$5,518,563.49	\$1,018,563.49	22.63
Eric Davis	\$4,347,967.54	\$3,420,840.00	\$2,500,000.00	\$2,872,368.32	(\$548,471.68)	16.03
Eric Davis	\$3,771,134.60	\$1,500,000.00	\$4,420,840.00	\$4,289,923.36	\$2,789,923.36	185.99
Eric Young	\$5,128,723.40	\$2,000,000.00	\$4,500,000.00	\$4,626,688.74	\$2,626,688.74	131.33
F.P. Santangelo	\$3,754,532.71	\$750,000.00	\$550,000.00	\$1,195,718.30	\$445,718.30	59.43
FP Santangelo	\$3,529,319.89	\$550,000.00	\$320,000.00	\$966,682.93	\$416,682.93	75.76
Frank Castillo	\$1,006,975.00	\$2,250,000.00	\$375,000.00	\$502,343.94	(\$1,747,656.06)	77.67
Gary Gaetti	\$4,175,176.45	\$2,000,000.00	\$170,000.00	\$977,049.26	(\$1,022,950.74)	51.15
Gerald Williams	\$5,586,803.35	\$2,373,439.00	\$1,475,000.00	\$2,303,534.74	(\$69,904.26)	2.95
Glenallen Hill	\$4,243,310.69	\$1,150,000.00	\$325,000.00	\$1,114,545.67	(\$35,454.33)	3.08
Graeme Lloyd	\$1,159,353.88	\$3,000,000.00	\$1,025,000.00	\$1,052,072.51	(\$1,947,927.49)	64.93
Greg Colbrunn	\$3,462,213.24	\$900,000.00	\$735,000.00	\$1,284,537.69	\$384,537.69	42.73
Greg Myers	\$1,475,672.32	\$1,200,000.00	\$850,000.00	\$976,073.94	(\$223,926.06)	18.66
Greg Norton	\$1,596,861.75	\$450,000.00	\$285,000.00	\$549,342.18	\$99,342.18	22.08
Greg Swindell	\$3,921,778.58	\$1,333,333.00	\$1,300,000.00	\$1,828,292.44	\$494,959.44	37.12
Greg Vaughn	\$10,387,693.22	\$7,097,962.00	\$5,615,428.00	\$6,577,046.83	(\$520,915.17)	7.34
Gregg Jefferies	\$3,886,600.79	\$1,375,000.00	\$6,000,000.00	\$5,574,146.79	\$4,199,146.79	305.39
Gregg Olson	\$3,592,073.00	\$1,250,000.00	\$850,000.00	\$1,402,531.96	\$152,531.96	12.20
Gregg Zaun	\$1,391,105.30	\$1,150,000.00	\$1,150,000.00	\$1,198,583.09	\$48,583.09	4.22
Hal Morris	\$1,104,601.95	\$500,000.00	\$450,000.00	\$581,903.31	\$81,903.31	16.38
Hal Morris	\$3,783,049.74	\$450,000.00	\$1,400,000.00	\$1,880,188.21	\$1,430,188.21	317.82
Harold Baines	\$4,699,496.20	\$2,000,000.00	\$1,730,000.00	\$2,328,358.08	\$328,358.08	16.42
Harold Baines	\$5,170,950.74	\$1,000,000.00	\$2,000,000.00	\$2,638,951.48	\$1,638,951.48	163.90
Heathcliff Slocumb	\$395,926.35	\$1,600,000.00	\$200,000.00	\$239,479.46	(\$1,360,520.54)	85.03
Henry Rodriguez	\$6,868,878.50	\$3,700,000.00	\$2,700,000.00	\$3,540,035.47	(\$159,964.53)	4.32
Henry Rodriguez	\$7,485,555.63	\$1,500,000.00	\$4,600,000.00	\$5,181,443.93	\$3,681,443.93	245.43
Hideo Nomo	\$3,960,749.35	\$4,500,000.00	\$4,500,000.00	\$4,391,340.16	(\$108,659.84)	2.41
Hideo Nomo	\$2,343,722.53	\$4,500,000.00	\$1,000,000.00	\$1,270,762.17	(\$3,229,237.83)	71.76
Ismael Valdes	\$2,702,981.45	\$2,500,000.00	\$2,500,000.00	\$2,540,901.08	\$40,901.08	1.64
Ismael Valdes	\$2,558,732.16	\$2,500,000.00	\$5,737,500.00	\$5,096,973.36	\$2,596,973.36	103.88
James Baldwin	\$2,324,829.75	\$1,250,000.00	\$5,950,000.00	\$5,219,522.58	\$3,969,522.58	317.56
Jason Bere	\$318,492.97	\$800,000.00	\$1,200,000.00	\$1,022,374.97	\$222,374.97	27.80

Appendix D: Continued

Name	Marginal Revenue	New Salary	Old Salary	Nash Salary	Diff between Nash and Real	Pct Error
Jason Bere	\$899,581.43	\$2,250,000.00	\$800,000.00	\$820,065.81	(\$1,429,934.19)	63.55
Jason Christiansen	\$1,180,659.16	\$1,733,333.00	\$1,600,000.00	\$1,515,502.17	(\$217,830.83)	12.57
Jason Giambi	\$17,722,456.07	\$10,428,571.00	\$4,103,333.00	\$6,847,607.39	(\$3,580,963.61)	34.34
Jason Isringhausen	\$2,068,083.33	\$2,750,000.00	\$3,300,000.00	\$3,051,766.88	\$301,766.88	10.97
Jason Schmidt	\$2,104,565.62	\$4,937,500.00	\$3,200,000.00	\$2,979,268.27	(\$1,958,231.73)	39.66
Javy Lopez	\$4,815,777.30	\$6,000,000.00	\$7,750,000.00	\$7,158,749.58	\$1,158,749.58	19.31
Jay Buhner	\$1,379,792.95	\$1,850,000.00	\$1,450,000.00	\$1,435,853.17	(\$414,146.83)	22.39
Jay Buhner	\$5,274,855.54	\$1,450,000.00	\$4,816,804.00	\$4,909,102.10	\$3,459,102.10	238.56
Jay Powell	\$2,045,968.10	\$2,250,000.00	\$1,600,000.00	\$1,689,863.26	(\$560,136.74)	24.89
Jeff Brantley	\$713,355.65	\$650,000.00	\$500,000.00	\$542,991.49	(\$107,008.51)	16.46
Jeff Brantley	\$988,103.54	\$500,000.00	\$2,800,000.00	\$2,434,900.06	\$1,934,900.06	386.98
Jeff Conine	\$2,531,696.67	\$2,500,000.00	\$1,960,000.00	\$2,075,197.76	(\$424,802.24)	16.99
Jeff Fassero	\$2,561,114.53	\$2,400,000.00	\$2,000,000.00	\$2,113,065.45	(\$286,934.55)	11.96
Jeff Fassero	\$3,391,319.37	\$2,000,000.00	\$5,016,667.00	\$4,689,156.93	\$2,689,156.93	134.46
Jeff Frye	\$603,571.14	\$1,000,000.00	\$2,500,000.00	\$2,117,866.65	\$1,117,866.65	111.79
Jeff Nelson	\$1,258,902.98	\$3,333,333.00	\$1,916,667.00	\$1,784,126.53	(\$1,549,206.47)	46.48
Jeffrey Hammonds	\$3,277,007.42	\$6,500,000.00	\$3,183,333.00	\$3,202,208.54	(\$3,297,791.46)	50.74
Jerry DiPoto	\$4,208,994.46	\$2,350,000.00	\$2,250,000.00	\$2,644,740.42	\$294,740.42	12.54
Jim Leyritz	\$7,664,092.01	\$1,000,000.00	\$1,900,000.00	\$3,061,473.47	\$2,061,473.47	206.15
Joe Girardi	\$2,186,844.64	\$2,000,000.00	\$3,400,000.00	\$3,155,547.32	\$1,155,547.32	57.78
Joe Oliver	\$1,836,727.40	\$1,100,000.00	\$500,000.00	\$769,352.64	(\$330,647.36)	30.06
John Burkett	\$2,109,103.02	\$1,750,000.00	\$750,000.00	\$1,023,861.36	(\$726,138.64)	41.49
John Burkett	\$2,959,248.91	\$5,500,000.00	\$1,750,000.00	\$1,993,665.53	(\$3,506,334.47)	63.75
John Burkett	\$2,943,604.86	\$750,000.00	\$4,000,000.00	\$3,787,134.74	\$3,037,134.74	404.95
John Flaherty	\$3,116,235.53	\$2,947,410.00	\$1,280,000.00	\$1,650,004.30	(\$1,297,405.70)	44.02
John Franco	\$3,558,289.32	\$3,583,333.00	\$3,350,000.00	\$3,391,970.62	(\$191,362.38)	5.34
John Jaha	\$0.00	\$2,750,000.00	\$525,000.00	\$419,211.69	(\$2,330,788.31)	84.76
John Mabry	\$3,152,025.34	\$1,400,000.00	\$1,400,000.00	\$1,753,035.82	\$353,035.82	25.22
John Olerud	\$10,071,810.61	\$6,350,000.00	\$4,250,000.00	\$5,423,103.85	(\$926,896.15)	14.60
John Smoltz	\$3,159,146.47	\$7,666,667.00	\$8,000,000.00	\$7,024,560.52	(\$642,106.48)	8.38
John Vander Wal	\$104,256.57	\$1,075,000.00	\$560,000.00	\$468,166.99	(\$606,833.01)	56.45
Johnny Damon	\$6,318,396.89	\$7,250,000.00	\$7,100,000.00	\$6,942,505.76	(\$307,494.24)	4.24
Jorge Fabregas	\$1,432,609.68	\$500,000.00	\$500,000.00	\$687,922.29	\$187,922.29	37.58
Jose Canseco	\$7,083,145.39	\$3,325,000.00	\$2,125,000.00	\$3,124,073.98	(\$200,926.02)	6.04
Jose Guillen	\$1,342,376.34	\$500,000.00	\$975,000.00	\$1,049,026.90	\$549,026.90	109.81
Jose Hernandez	\$2,603,378.12	\$3,333,333.00	\$2,400,000.00	\$2,440,981.01	(\$892,351.99)	26.77
Jose Mesa	\$1,190,024.83	\$2,900,000.00	\$3,950,000.00	\$3,393,860.73	\$493,860.73	17.03
Jose Mesa	\$3,424,623.24	\$2,850,000.00	\$1,700,000.00	\$2,047,514.25	(\$802,485.75)	28.16
Jose Offerman	\$6,609,955.49	\$4,950,000.00	\$2,000,000.00	\$2,928,913.17	(\$2,021,086.83)	40.83
Jose Valentin	\$4,691,083.74	\$5,166,667.00	\$1,320,000.00	\$1,999,278.59	(\$3,167,388.41)	61.30
Jose Valentin	\$3,597,916.39	\$1,320,000.00	\$3,036,095.00	\$3,149,302.88	\$1,829,302.88	138.58
Jose Vizcaino	\$752,973.41	\$1,700,000.00	\$1,500,000.00	\$1,349,472.98	(\$350,527.02)	20.62

Appendix D: Continued

Name	Marginal Revenue	New Salary	Old Salary	Nash Salary	Diff between Nash and Real	Pct Error
Jose Vizcaino	\$1,460,852.83	\$1,500,000.00	\$3,500,000.00	\$3,089,108.69	\$1,589,108.69	105.94
Juan Gonzalez	\$5,977,490.40	\$11,000,000.00	\$10,000,000.00	\$9,189,458.09	(\$1,810,541.91)	16.46
Juan Gonzalez	\$6,149,143.86	\$10,000,000.00	\$7,500,000.00	\$7,227,800.40	(\$2,772,199.60)	27.72
Juan Guzman	\$3,973,345.51	\$6,000,000.00	\$5,250,000.00	\$4,992,752.14	(\$1,007,247.86)	16.79
Julian Tavaréz	\$1,667,787.19	\$2,275,000.00	\$1,200,000.00	\$1,294,259.84	(\$980,740.16)	43.11
Keith Lockhart	\$1,889,094.53	\$600,000.00	\$800,000.00	\$1,019,454.24	\$419,454.24	69.91
Kelly Stinnett	\$1,572,660.01	\$500,000.00	\$1,000,000.00	\$1,115,391.88	\$615,391.88	123.08
Ken Caminiti	\$7,427,910.23	\$4,500,000.00	\$3,500,000.00	\$4,291,479.99	(\$208,520.01)	4.63
Ken Caminiti	\$4,249,032.17	\$3,500,000.00	\$4,500,000.00	\$4,449,429.59	\$949,429.59	27.13
Ken Ryan	\$2,402,600.20	\$600,000.00	\$990,000.00	\$1,274,641.13	\$674,641.13	112.44
Kenny Rogers	\$3,546,404.84	\$7,500,000.00	\$5,000,000.00	\$4,707,098.33	(\$2,792,901.67)	37.24
Kent Bottenfield	\$2,913,396.62	\$2,000,000.00	\$4,000,000.00	\$3,781,047.74	\$1,781,047.74	89.05
Kevin Appier	\$3,336,238.81	\$8,500,000.00	\$5,600,000.00	\$5,143,848.61	(\$3,356,151.39)	39.48
Kevin Brown	\$12,159,323.89	\$10,714,286.00	\$4,935,000.00	\$6,390,712.45	(\$4,323,573.55)	40.35
Kevin Jarvis	\$0.00	\$1,250,000.00	\$550,000.00	\$439,174.15	(\$810,825.85)	64.87
Kevin Jordan	\$1,675,320.46	\$700,000.00	\$1,000,000.00	\$1,136,078.12	\$436,078.12	62.30
Kirt Manwaring	\$1,456,354.56	\$700,000.00	\$2,150,000.00	\$2,010,229.37	\$1,310,229.37	187.18
Lenny Harris	\$395,463.32	\$1,100,000.00	\$1,100,000.00	\$958,034.77	(\$141,965.23)	12.91
Lenny Harris	\$1,710,673.58	\$1,125,000.00	\$775,000.00	\$963,539.68	(\$161,460.32)	14.35
Luis Alicea	\$1,641,897.62	\$800,000.00	\$750,000.00	\$929,718.75	\$129,718.75	16.21
Luis Alicea	\$1,605,292.34	\$800,000.00	\$800,000.00	\$962,267.65	\$162,267.65	20.28
Luis Alicea	\$4,996,178.87	\$750,000.00	\$825,000.00	\$1,665,499.00	\$915,499.00	122.07
Luis Lopez	\$1,063,857.32	\$700,000.00	\$775,000.00	\$833,205.20	\$133,205.20	19.03
Luis Sojo	\$0.00	\$500,000.00	\$450,000.00	\$359,324.30	(\$140,675.70)	28.14
Manny Ramirez	\$9,264,217.30	\$13,050,000.00	\$4,250,000.00	\$5,260,372.55	(\$7,789,627.45)	59.69
Mark Clark	\$3,767,731.30	\$4,000,000.00	\$5,050,000.00	\$4,791,620.87	\$791,620.87	19.79
Mark Gardner	\$2,073,070.55	\$2,000,000.00	\$1,100,000.00	\$1,296,075.22	(\$703,924.78)	35.20
Mark Gardner	\$952,020.21	\$1,750,000.00	\$3,000,000.00	\$2,587,328.90	\$837,328.90	47.85
Mark Grace	\$9,994,004.61	\$3,000,000.00	\$5,300,000.00	\$6,245,849.20	\$3,245,849.20	108.19
Mark Guthrie	\$1,131,503.60	\$1,600,000.00	\$1,600,000.00	\$1,505,597.25	(\$94,402.75)	5.90
Mark Guthrie	\$770,012.19	\$1,800,000.00	\$1,600,000.00	\$1,432,756.17	(\$367,243.83)	20.40
Mark Lewis	\$2,486,354.37	\$600,000.00	\$500,000.00	\$900,253.48	\$300,253.48	50.04
Mark Lewis	\$2,602,879.69	\$500,000.00	\$1,720,000.00	\$1,897,901.63	\$1,397,901.63	279.58
Mark McLemore	\$3,515,763.75	\$2,000,000.00	\$2,400,000.00	\$2,624,828.12	\$624,828.12	31.24
Mark McLemore	\$3,293,578.05	\$3,150,000.00	\$2,000,000.00	\$2,260,657.98	(\$889,342.02)	28.23
Mark Petkovsek	\$2,133,420.04	\$2,050,000.00	\$1,512,500.00	\$1,637,616.35	(\$412,383.65)	20.12
Mark Portugal	\$1,883,561.50	\$2,700,000.00	\$2,350,000.00	\$2,256,011.92	(\$443,988.08)	16.44
Mark Whiten	\$4,036,417.57	\$450,000.00	\$200,000.00	\$973,044.08	\$523,044.08	116.23
Mark Wohlers	\$322,655.38	\$600,000.00	\$500,000.00	\$464,264.78	(\$135,735.22)	22.62
Marty Cordova	\$2,508,704.89	\$2,500,000.00	\$500,000.00	\$904,757.15	(\$1,595,242.85)	63.81
Marty Cordova	\$1,640,237.22	\$500,000.00	\$3,000,000.00	\$2,726,005.69	\$2,226,005.69	445.20
Midre Cummings	\$321,437.63	\$425,000.00	\$300,000.00	\$304,319.72	(\$120,680.28)	28.40

Appendix D: Continued

Name	Marginal Revenue	New Salary	Old Salary	Nash Salary	Diff between Nash and Real	Pct Error
Miguel Batista	\$1,442,815.13	\$400,000.00	\$325,000.00	\$550,241.48	\$150,241.48	37.56
Mike Benjamin	\$923,115.99	\$700,000.00	\$242,500.00	\$379,645.18	(\$320,354.82)	45.76
Mike Bordick	\$5,877,626.97	\$4,500,000.00	\$3,000,000.00	\$3,579,846.29	(\$920,153.71)	20.45
Mike Fetters	\$441.13	\$1,725,000.00	\$550,000.00	\$439,263.04	(\$1,285,736.96)	74.54
Mike Hampton	\$6,017,344.90	\$10,500,000.00	\$5,750,000.00	\$5,803,870.41	(\$4,696,129.59)	44.73
Mike Holtz	\$206,923.08	\$825,000.00	\$705,000.00	\$604,636.73	(\$220,363.27)	26.71
Mike Jackson	\$4,284,083.14	\$3,000,000.00	\$2,100,000.00	\$2,540,096.13	(\$459,903.87)	15.33
Mike Jackson	\$1,518,889.89	\$500,000.00	\$750,000.00	\$904,932.50	\$404,932.50	80.99
Mike Jackson	\$2,913,396.62	\$750,000.00	\$3,000,000.00	\$2,982,549.29	\$2,232,549.29	297.67
Mike James	\$316,458.75	\$500,000.00	\$1,525,000.00	\$1,281,477.07	\$781,477.07	156.30
Mike MacFarlane	\$4,382,864.52	\$600,000.00	\$725,000.00	\$1,462,065.37	\$862,065.37	143.68
Mike Magnante	\$1,333,129.26	\$900,000.00	\$775,000.00	\$887,463.91	(\$12,536.09)	1.39
Mike Magnante	\$970,917.32	\$775,000.00	\$600,000.00	\$674,740.42	(\$100,259.58)	12.94
Mike Matheny	\$1,177,761.24	\$750,000.00	\$600,000.00	\$716,419.78	(\$33,580.22)	4.48
Mike Matheny	\$1,137,411.75	\$600,000.00	\$800,000.00	\$867,988.99	\$267,988.99	44.66
Mike Mohler	\$1,119,487.71	\$490,000.00	\$525,000.00	\$644,790.19	\$154,790.19	31.59
Mike Morgan	\$2,860,794.15	\$750,000.00	\$700,000.00	\$1,135,403.37	\$385,403.37	51.39
Mike Munoz	\$715,534.27	\$750,000.00	\$450,000.00	\$503,505.57	(\$246,494.43)	32.87
Mike Mussina	\$8,571,498.48	\$10,000,000.00	\$6,786,032.00	\$7,145,806.26	(\$2,854,193.74)	28.54
Mike Piazza	\$20,763,988.23	\$7,171,428.00	\$8,000,000.00	\$10,571,963.39	\$3,400,535.39	47.42
Mike Stanton	\$3,638,775.38	\$2,400,000.00	\$2,016,667.00	\$2,343,524.35	(\$56,475.65)	2.35
Mike Timlin	\$4,395,009.24	\$2,250,000.00	\$3,025,000.00	\$3,301,058.98	\$1,051,058.98	46.71
Mike Trombley	\$3,091,263.45	\$2,250,000.00	\$1,500,000.00	\$1,820,642.05	(\$429,357.95)	19.08
Mike Williams	\$2,494,746.52	\$2,000,000.00	\$1,200,000.00	\$1,460,893.43	(\$539,106.57)	26.96
Mo Vaughn	\$11,658,856.81	\$7,166,666.00	\$6,650,000.00	\$7,659,292.40	\$492,626.40	6.87
Moises Alou	\$3,996,381.99	\$6,000,000.00	\$5,250,000.00	\$4,997,394.03	(\$1,002,605.97)	16.71
Omar Olivares	\$2,451,462.16	\$4,000,000.00	\$1,825,000.00	\$1,951,233.10	(\$2,048,766.90)	51.22
Orel Hershiser	\$3,754,532.71	\$2,000,000.00	\$2,500,000.00	\$2,752,790.28	\$752,790.28	37.64
Orel Hershiser	\$5,434,299.91	\$2,500,000.00	\$3,720,000.00	\$4,065,434.09	\$1,565,434.09	62.62
Orlando Merced	\$322,886.91	\$1,050,000.00	\$300,000.00	\$304,611.75	(\$745,388.25)	70.99
Otis Nixon	\$4,343,633.72	\$1,500,000.00	\$2,000,000.00	\$2,472,245.82	\$972,245.82	64.82
Ozzie Guillen	\$3,504,580.63	\$550,000.00	\$170,000.00	\$841,923.16	\$291,923.16	53.08
Pat Hentgen	\$3,430,770.36	\$4,500,000.00	\$6,000,000.00	\$5,482,296.25	\$982,296.25	21.83
Pat Mahomes	\$713,355.65	\$500,000.00	\$750,000.00	\$742,616.11	\$242,616.11	48.52
Pat Meares	\$2,959,797.61	\$1,500,000.00	\$2,500,000.00	\$2,592,649.93	\$1,092,649.93	72.84
Pat Rapp	\$1,633,054.42	\$1,650,000.00	\$800,000.00	\$967,861.76	(\$682,138.24)	41.34
Pat Rapp	\$2,700,321.23	\$2,000,000.00	\$750,000.00	\$1,142,992.75	(\$857,007.25)	42.85
Pat Rapp	\$2,798,071.18	\$750,000.00	\$1,650,000.00	\$1,881,338.12	\$1,131,338.12	150.85
Paul O'Neill	\$12,613,670.67	\$7,250,000.00	\$6,500,000.00	\$7,731,914.11	\$481,914.11	6.65
Pedro Astacio	\$6,412,879.05	\$4,000,000.00	\$6,850,000.00	\$6,761,919.45	\$2,761,919.45	69.05
Pete Schourek	\$410,936.15	\$2,000,000.00	\$1,600,000.00	\$1,360,401.79	(\$639,598.21)	31.98
Rafael Palmiero	\$8,899,251.16	\$8,849,931.00	\$6,515,828.00	\$6,996,091.46	(\$1,853,839.54)	20.95

Appendix D: Continued

Name	Marginal Revenue	New Salary	Old Salary	Nash Salary	Diff between Nash and Real	Pct Error
Ramon Martinez	\$3,133,435.46	\$1,500,000.00	\$4,800,000.00	\$4,464,184.66	\$2,964,184.66	197.61
Randy Johnson	\$10,308,549.47	\$9,700,000.00	\$6,000,000.00	\$6,868,179.39	(\$2,831,820.61)	29.19
Randy Velarde	\$3,744,817.63	\$1,600,000.00	\$850,000.00	\$1,433,310.24	(\$166,689.76)	10.42
Randy Velarde	\$0.00	\$3,050,000.00	\$1,600,000.00	\$1,277,597.52	(\$1,772,402.48)	58.11
Randy Velarde	\$4,311,404.66	\$1,000,000.00	\$3,150,000.00	\$3,384,024.84	\$2,384,024.84	238.40
Reggie Sanders	\$4,677,541.10	\$1,750,000.00	\$1,500,000.00	\$2,140,279.45	\$390,279.45	22.30
Reggie Sanders	\$5,740,010.53	\$1,500,000.00	\$3,700,000.00	\$4,111,065.28	\$2,611,065.28	174.07
Rey Sanchez	\$1,727,756.50	\$1,200,000.00	\$500,000.00	\$747,394.84	(\$452,605.16)	37.72
Rey Sanchez	\$1,501,265.24	\$2,300,000.00	\$1,200,000.00	\$1,260,705.41	(\$1,039,294.59)	45.19
Rheal Cormier	\$714,882.52	\$2,583,333.00	\$2,000,000.00	\$1,741,046.84	(\$842,286.16)	32.60
Rich Amaral	\$1,103,893.82	\$500,000.00	\$550,000.00	\$661,610.46	\$161,610.46	32.32
Rich Becker	\$2,927,890.87	\$500,000.00	\$475,000.00	\$969,261.31	\$469,261.31	93.85
Rich Becker	\$2,865,977.77	\$475,000.00	\$1,550,000.00	\$1,815,171.56	\$1,340,171.56	282.14
Rich Rodriguez	\$1,886,442.62	\$600,000.00	\$730,000.00	\$963,024.98	\$363,024.98	60.50
Rick Helling	\$5,179,005.20	\$3,000,000.00	\$4,500,000.00	\$4,636,820.60	\$1,636,820.60	54.56
Rick Reed	\$6,735,394.27	\$6,750,000.00	\$4,375,000.00	\$4,850,623.10	(\$1,899,376.90)	28.14
Rickey Henderson	\$8,963,108.21	\$1,900,000.00	\$1,150,000.00	\$2,724,353.40	\$824,353.40	43.39
Ricky Bottalico	\$1,600,534.59	\$1,500,000.00	\$1,500,000.00	\$1,520,257.88	\$20,257.88	1.35
Ricky Bottalico	\$1,071,329.22	\$1,500,000.00	\$1,500,000.00	\$1,413,622.17	(\$86,377.83)	5.76
Ricky Bottalico	\$1,086,716.67	\$1,500,000.00	\$2,300,000.00	\$2,055,521.53	\$555,521.53	37.03
Ricky Gutierrez	\$2,594,908.19	\$2,500,000.00	\$2,212,500.00	\$2,289,555.84	(\$210,444.16)	8.42
Ricky Gutierrez	\$3,633,088.81	\$2,166,667.00	\$3,400,000.00	\$3,446,967.76	\$1,280,300.76	59.09
Rico Brogna	\$3,527,183.74	\$1,500,000.00	\$4,200,000.00	\$4,064,426.48	\$2,564,426.48	170.96
Rob Ducey	\$399,961.86	\$400,000.00	\$375,000.00	\$380,029.85	(\$19,970.15)	4.99
Rob Ducey	\$248,278.75	\$500,000.00	\$400,000.00	\$369,427.93	(\$130,572.07)	26.11
Robert Fick	\$0.00	\$1,150,000.00	\$255,000.00	\$203,617.11	(\$946,382.89)	82.29
Roberto Alomar	\$9,310,674.21	\$7,049,966.00	\$6,343,771.00	\$6,941,606.59	(\$108,359.41)	1.54
Robin Ventura	\$8,592,790.88	\$7,000,000.00	\$6,100,000.00	\$6,602,301.22	(\$397,698.78)	5.68
Rod Beck	\$3,764,642.78	\$5,500,000.00	\$3,600,000.00	\$3,633,175.78	(\$1,866,824.22)	33.94
Roger Cedeno	\$6,225,506.71	\$2,375,000.00	\$2,700,000.00	\$3,410,395.06	\$1,035,395.06	43.60
Ron Coomer	\$2,561,114.53	\$1,100,000.00	\$1,500,000.00	\$1,713,816.22	\$613,816.22	55.80
Ron Gant	\$4,721,133.23	\$1,750,000.00	\$5,066,667.00	\$4,997,041.41	\$3,247,041.41	185.55
Ron Gant	\$2,023,799.18	\$500,000.00	\$1,750,000.00	\$1,805,170.96	\$1,305,170.96	261.03
Rondell White	\$6,608,675.89	\$4,500,000.00	\$4,000,000.00	\$4,525,652.23	\$25,652.23	0.57
Royce Clayton	\$4,606,368.44	\$4,500,000.00	\$3,500,000.00	\$3,722,934.95	(\$777,065.05)	17.27
Rudy Seanez	\$444.63	\$1,650,000.00	\$775,000.00	\$618,925.89	(\$1,031,074.11)	62.49
Sandy Alomar Jr	\$1,978,566.99	\$2,900,000.00	\$2,700,000.00	\$2,554,630.13	(\$345,369.87)	11.91
Scott Brosius	\$3,518,565.10	\$5,250,000.00	\$2,650,000.00	\$2,825,017.21	(\$2,424,982.79)	46.19
Scott Kamieniecki	\$1,466,399.78	\$1,850,000.00	\$3,350,000.00	\$2,970,451.64	\$1,120,451.64	60.56
Scott Karl	\$1,342,999.49	\$625,000.00	\$3,700,000.00	\$3,225,060.75	\$2,600,060.75	416.01
Scott Radinsky	\$1,930,379.11	\$2,500,000.00	\$900,000.00	\$1,107,622.99	(\$1,392,377.01)	55.70
Scott Sanders	\$1,597,317.40	\$825,000.00	\$1,700,000.00	\$1,679,309.30	\$854,309.30	103.55

Appendix D: Continued

Name	Marginal Revenue	New Salary	Old Salary	Nash Salary	Diff between Nash and Real	Pct Error
Scott Service	\$1,454,014.24	\$500,000.00	\$745,000.00	\$887,867.47	\$387,867.47	77.57
Scott Spiezio	\$3,694,515.86	\$600,000.00	\$260,000.00	\$952,060.27	\$352,060.27	58.68
Sean Berry	\$2,782,295.69	\$1,050,000.00	\$1,000,000.00	\$1,359,135.34	\$309,135.34	29.44
Shawon Dunston	\$946,445.85	\$1,000,000.00	\$600,000.00	\$669,809.37	(\$330,190.63)	33.02
Shawon Dunston	\$1,930,379.11	\$610,000.00	\$1,000,000.00	\$1,187,472.83	\$577,472.83	94.67
Shigetoshi Hasegawa	\$1,675,616.34	\$1,500,000.00	\$1,500,000.00	\$1,535,386.96	\$35,386.96	2.36
Stan Javier	\$4,117,661.00	\$1,500,000.00	\$1,750,000.00	\$2,227,087.36	\$727,087.36	48.47
Sterling Hitchcock	\$2,980,695.12	\$4,936,719.00	\$6,000,000.00	\$5,391,605.39	\$454,886.39	9.21
Steve Avery	\$1,044,664.53	\$750,000.00	\$3,900,000.00	\$3,324,645.48	\$2,574,645.48	343.29
Steve Finley	\$13,244,804.96	\$5,375,000.00	\$3,400,000.00	\$5,383,743.44	\$8,743.44	0.16
Steve Karsay	\$4,877,904.95	\$4,000,000.00	\$2,700,000.00	\$3,138,851.22	(\$861,148.78)	21.53
Steve Reed	\$845,846.15	\$500,000.00	\$1,600,000.00	\$1,448,036.83	\$948,036.83	189.61
Steve Trachsel	\$5,289,169.13	\$3,000,000.00	\$1,000,000.00	\$1,864,274.22	(\$1,135,725.78)	37.86
Steve Trachsel	\$4,511,911.97	\$1,000,000.00	\$5,250,000.00	\$5,101,274.12	\$4,101,274.12	410.13
T.J. Mathews	\$1,177,556.13	\$1,000,000.00	\$1,900,000.00	\$1,754,426.44	\$754,426.44	75.44
Terry Adams	\$2,117,067.75	\$2,700,000.00	\$2,600,000.00	\$2,502,688.40	(\$197,311.60)	7.31
Terry Mulholland	\$3,339,426.41	\$2,750,000.00	\$2,975,000.00	\$3,048,432.49	\$298,432.49	10.85
Terry Mulholland	\$1,209,621.36	\$2,925,000.00	\$600,000.00	\$722,839.65	(\$2,202,160.35)	75.29
Terry Shumpert	\$0.00	\$650,000.00	\$220,000.00	\$175,669.66	(\$474,330.34)	72.97
Terry Steinbach	\$5,185,122.82	\$1,000,000.00	\$2,850,000.00	\$3,320,530.87	\$2,320,530.87	232.05
Thomas Howard	\$99,004.53	\$650,000.00	\$325,000.00	\$279,461.56	(\$370,538.44)	57.01
Tim Belcher	\$6,746,816.84	\$4,650,000.00	\$2,300,000.00	\$3,196,040.48	(\$1,453,959.52)	31.27
Tim Bogar	\$742,377.10	\$700,000.00	\$725,000.00	\$728,501.51	\$28,501.51	4.07
Tim Raines	\$3,256,360.87	\$600,000.00	\$1,300,000.00	\$1,694,209.74	\$1,094,209.74	182.37
Tim Wakefield	\$3,373,723.06	\$3,000,000.00	\$4,500,000.00	\$4,273,053.45	\$1,273,053.45	42.44
Tim Worrell	\$259,363.87	\$1,300,000.00	\$700,000.00	\$611,211.14	(\$688,788.86)	52.98
Tino Martinez	\$4,036,341.15	\$5,750,000.00	\$6,300,000.00	\$5,843,869.24	\$93,869.24	1.63
Todd Hollandsworth	\$1,610,603.31	\$2,750,000.00	\$1,450,000.00	\$1,482,361.82	(\$1,267,638.18)	46.10
Todd Hundley	\$2,688,479.22	\$3,500,000.00	\$6,125,000.00	\$5,432,535.74	\$1,932,535.74	55.22
Todd Jones	\$2,308,813.18	\$1,000,000.00	\$3,975,000.00	\$3,639,260.78	\$2,639,260.78	263.93
Todd Pratt	\$1,596,783.54	\$650,000.00	\$600,000.00	\$800,853.43	\$150,853.43	23.21
Todd Stottlemire	\$8,265,114.83	\$8,000,000.00	\$4,900,000.00	\$5,578,075.85	(\$2,421,924.15)	30.27
Todd Van Poppel	\$1,252,411.34	\$2,000,000.00	\$850,000.00	\$931,086.51	(\$1,068,913.49)	53.45
Todd Zeile	\$9,360,565.45	\$4,333,333.00	\$3,200,000.00	\$4,441,363.48	\$108,030.48	2.49
Tom Candiotti	\$2,349,509.10	\$3,000,000.00	\$2,850,000.00	\$2,749,150.31	(\$250,849.69)	8.36
Tom Goodwin	\$2,934,103.91	\$3,416,667.00	\$3,225,000.00	\$3,166,383.99	(\$250,283.01)	7.33
Tom Gordon	\$2,051,023.37	\$2,000,000.00	\$3,750,000.00	\$3,407,653.58	\$1,407,653.58	70.38
Tom Lampkin	\$1,896,516.74	\$1,100,000.00	\$950,000.00	\$1,140,724.59	\$40,724.59	3.70
Tom Lampkin	\$1,785,570.94	\$625,000.00	\$500,000.00	\$759,044.54	\$134,044.54	21.45
Tom Prince	\$666,042.24	\$300,000.00	\$350,000.00	\$413,683.00	\$113,683.00	37.89
Tony Eusebio	\$635,631.62	\$1,100,000.00	\$900,000.00	\$846,729.36	(\$253,270.64)	23.02
Tony Gwynn	\$6,124,349.24	\$2,000,000.00	\$6,300,000.00	\$6,264,606.10	\$4,264,606.10	213.23

Appendix D: Continued

Name	Marginal Revenue	New Salary	Old Salary	Nash Salary	Diff between Nash and Real	Pct Error
Tony Phillips	\$5,809,975.91	\$700,000.00	\$560,000.00	\$1,617,878.28	\$917,878.28	131.13
Turk Wendell	\$5,340,071.72	\$3,100,000.00	\$2,050,014.00	\$2,712,965.73	(\$387,034.27)	12.48
Tyler Houston	\$872,128.99	\$835,000.00	\$715,000.00	\$746,661.73	(\$88,338.27)	10.58
Vinny Castilla	\$3,003,609.35	\$3,000,000.00	\$7,250,000.00	\$6,394,345.71	\$3,394,345.71	113.14
Wally Joyner	\$5,142,016.84	\$2,841,680.00	\$3,750,000.00	\$4,030,493.55	\$1,188,813.55	41.83
Wilfredo Cordero	\$1,943,932.69	\$2,166,667.00	\$500,000.00	\$790,954.67	(\$1,375,712.33)	63.49
Will Clark	\$6,418,319.31	\$4,920,840.00	\$5,812,595.00	\$5,934,649.39	\$1,013,809.39	20.60
Willie Greene	\$3,395,334.78	\$1,000,000.00	\$1,750,000.00	\$2,081,537.51	\$1,081,537.51	108.15
Willie Greene	\$4,086,133.55	\$395,000.00	\$1,000,000.00	\$1,621,860.69	\$1,226,860.69	310.60
Willie McGee	\$2,657,940.25	\$1,000,000.00	\$1,400,000.00	\$1,653,476.91	\$653,476.91	65.35
Wilton Guerrero	\$1,136,979.76	\$400,000.00	\$825,000.00	\$887,864.41	\$487,864.41	121.97

Appendix E: Implied Discount Rate by Player

Name	Marginal Revenue	Nash Salary	Age	Implied Rate	Salary Quintile	Position	Var WS	Last Season
Al Leiter	\$5,343,345.51	\$5,250,000.00	37	0.12%	5	sp	14	8.00
Alan Embree	\$677,010.24	\$500,000.00	31	-0.28%	1	rp	4	(2.50)
Alan Mills	\$1,709,598.47	\$1,250,000.00	32	5.52%	2	rp	6	4.00
Albert Belle	\$12,884,884.82	\$11,949,794.00	32	1.44%	5	of	19	12.50
Alex Cora	\$428,776.61	\$625,000.00	26	-1.53%	1	ss	6	3.00
Alex Gonzalez	\$1,217,735.69	\$4,250,000.00	27	-2.30%	4	ss	5	3.50
Alex Rodriguez	\$10,153,614.33	\$22,000,000.00	25	-2.01%	5	ss	14	10.50
Allen Watson	\$2,818,433.93	\$200,000.00	28	-2.91%	1	rp	7	(6.00)
Allen Watson	\$2,301,934.16	\$1,300,000.00	28	2.73%	2	rp	7	1.50
Andres Galarraga	\$4,716,859.49	\$6,000,000.00	39	1.54%	5	1b	27	2.50
Andy Benes	\$1,861,786.71	\$2,867,542.00	32	0.96%	4	sp	14	1.00
Armando Reynoso	\$3,921,778.58	\$1,625,000.00	32	18.37%	3	sp	5	(2.50)
Armando Reynoso	\$2,581,354.47	\$2,000,000.00	32	-1.27%	3	sp	3	0.50
Benito Santiago	\$3,451,524.01	\$1,700,000.00	33	-2.28%	3	c	18	(13.00)
Benito Santiago	\$1,710,997.63	\$2,044,168.00	33	-0.65%	3	c	4	3.50
Bernie Williams	\$13,682,663.13	\$9,857,143.00	30	7.37%	5	of	3	2.00
Bill Haselman	\$883,200.84	\$650,000.00	32	27.98%	1	c	4	2.50
BJ Surhoff	\$8,921,507.92	\$3,705,516.00	34	7.87%	4	of	6	(5.00)
Bobby Bonilla	\$678,213.37	\$900,000.00	37	-0.95%	2	of	6	3.50
Bobby Jones	\$1,164,471.57	\$625,000.00	30	-0.34%	1	rp	10	(6.50)
Brent Mayne	\$3,055,654.33	\$1,750,000.00	31	3.92%	3	c	7	5.50
Brian Bohanon	\$1,972,951.60	\$2,110,000.00	30	-0.23%	3	sp	13	10.50
Brian Jordan	\$6,643,723.89	\$4,600,000.00	31	6.81%	5	of	26	7.00
Brian L. Hunter	\$1,664,210.96	\$900,000.00	28	3.82%	2	of	5	(2.50)
Brian L. Hunter	\$1,070,724.89	\$1,000,000.00	28	2.12%	2	of	1	1.00
Brian Williams	\$411,677.39	\$600,000.00	30	-2.51%	1	rp	4	3.00
Buddy Groom	\$1,033,760.19	\$1,750,000.00	34	-2.39%	3	rp	1	(0.50)
Cal Eldred	\$0.00	\$750,000.00	33	0.48%	1	sp	7	5.50
Carlos Hernandez	\$498,199.80	\$210,000.00	31	-0.26%	1	c	7	(1.50)
Chad Kreuter	\$1,221,063.16	\$875,000.00	34	6.29%	2	c	4	3.00
Chad Krueter	\$1,178,176.87	\$900,000.00	34	2.09%	2	c	6	4.00
Chan Ho Park	\$4,187,600.09	\$6,884,803.00	28	2.68%	5	sp	12	4.00
Chris Gomez	\$460,368.04	\$1,000,000.00	30	0.81%	2	ss	7	4.50
Chuck Knoblauch	\$3,775,913.85	\$2,000,000.00	33	-1.33%	3	of	15	(6.50)
Craig Paquette	\$3,271,809.73	\$2,125,000.00	32	5.50%	3	3b	7	5.50
Dan Miceli	\$1,025,224.31	\$1,000,000.00	31	-0.08%	2	rp	2	(1.50)
Dan Wilson	\$5,401,016.25	\$4,000,000.00	30	11.21%	4	c	14	(5.00)
Danny Bautista	\$2,867,073.91	\$2,000,000.00	29	1.96%	3	of	7	(0.50)
Danny Graves	\$5,009,591.94	\$3,525,000.00	28	3.13%	4	cl	7	(6.00)
Darren Bragg	\$2,940,429.99	\$800,000.00	29	14.85%	2	of	1	0.50
Darren Lewis	\$1,376,271.22	\$500,000.00	31	-1.31%	1	of	3	(1.50)
Darryl Hamilton	\$4,011,246.15	\$3,613,333.00	34	1.38%	4	of	8	6.00

Appendix E: Continued

Name	Marginal Revenue	Nash Salary	Age	Implied Discount Rate	Salary Quintile	Position	Var WS	Last Season
Darryl Kile	\$1,542,595.83	\$6,666,667.00	32	20.46%	5	sp	11	7.50
Dave Burba	\$3,175,361.04	\$2,000,000.00	35	-1.18%	3	sp	12	(11.00)
Dave Hansen	\$987,208.39	\$475,000.00	31	61.47%	1	3b	6	0.00
Dave Magadan	\$1,448,382.33	\$575,000.00	36	26.20%	1	3b	6	(1.00)
David Cone	\$3,231,490.10	\$1,000,000.00	35	-0.61%	2	sp	17	(16.00)
David Segui	\$4,061,065.14	\$4,325,000.00	33	-0.43%	4	1b	6	(5.50)
David Segui	\$5,471,121.69	\$7,000,000.00	33	-1.71%	5	1b	8	5.50
David Weathers	\$3,782,987.16	\$1,833,333.00	30	9.24%	3	rp	4	3.50
David Wells	\$5,744,012.30	\$2,250,000.00	38	-1.50%	3	sp	13	(10.50)
Dean Palmer	\$4,383,729.48	\$5,000,000.00	30	2.24%	5	3b	4	(1.00)
Delino DeShields	\$6,883,744.16	\$3,719,758.00	29	13.19%	4	2b	10	(1.00)
Dennis Cook	\$2,274,246.34	\$2,000,000.00	36	0.72%	3	rp	4	3.00
Dennis Cook	\$1,425,626.03	\$1,250,000.00	36	-0.46%	2	rp	4	(2.00)
Doug Glatville	\$5,564,560.80	\$4,000,000.00	31	4.77%	4	of	13	(5.50)
Doug Henry	\$1,898,205.74	\$800,000.00	36	43.93%	2	rp	5	(3.00)
Doug Henry	\$1,038,630.70	\$1,200,000.00	36	-1.21%	2	rp	5	1.50
Doug Jones	\$4,402,041.55	\$600,000.00	41	57.03%	1	rp	13	(1.50)
Edgar Martinez	\$9,533,656.20	\$5,400,000.00	36	6.53%	5	1b	5	(3.50)
Ellis Burks	\$6,259,836.14	\$5,666,667.00	34	10.68%	5	of	10	2.00
Eric Davis	\$3,771,134.60	\$1,500,000.00	36	-2.33%	2	of	13	(3.50)
Eric Davis	\$4,347,967.54	\$3,420,840.00	36	3.02%	4	of	16	4.00
F.P. Santangelo	\$3,754,532.71	\$750,000.00	31	45.07%	1	of	4	2.00
FP Santangelo	\$3,529,319.89	\$550,000.00	31	38.86%	1	of	12	(8.00)
Frank Castillo	\$1,006,975.00	\$2,250,000.00	31	-1.99%	3	sp	12	12.00
Gary Gaetti	\$4,175,176.45	\$2,000,000.00	40	3.57%	3	3b	7	3.50
Gerald Williams	\$5,586,803.35	\$2,373,439.00	33	10.73%	3	of	4	2.50
Glenallen Hill	\$4,243,310.69	\$1,150,000.00	33	11.25%	2	of	2	(1.00)
Graeme Lloyd	\$1,159,353.88	\$3,000,000.00	32	-2.80%	4	rp	4	3.00
Greg Colbrunn	\$3,462,213.24	\$900,000.00	29	46.59%	2	1b	6	(3.00)
Greg Myers	\$1,475,672.32	\$1,200,000.00	33	2.36%	2	c	3	2.50
Greg Norton	\$1,596,861.75	\$450,000.00	28	20.85%	1	3b	8	(4.50)
Greg Swindell	\$3,921,778.58	\$1,333,333.00	33	232.96%	2	rp	9	3.50
Greg Vaughn	\$10,387,693.22	\$7,097,962.00	34	6.66%	5	of	23	5.50
Gregg Jefferies	\$3,886,600.79	\$1,375,000.00	31	-1.63%	2	of	4	4.00
Gregg Olson	\$3,592,073.00	\$1,250,000.00	33	17.57%	2	rp	8	1.00
Hal Morris	\$1,104,601.95	\$500,000.00	33	36.28%	1	1b	2	(1.50)
Harold Baines	\$4,699,496.20	\$2,000,000.00	40	29.99%	3	dh	7	5.00
Heathcliff Slocumb	\$2,988,008.01	\$200,000.00	32	-2.99%	1	cl	12	(6.50)
Heathcliff Slocumb	\$395,926.35	\$1,600,000.00	32	-2.58%	3	cl	4	3.50
Henry Rodriguez	\$6,868,878.50	\$3,700,000.00	31	9.51%	4	of	3	(1.50)
Hideo Nomo	\$2,343,722.53	\$4,500,000.00	32	-1.85%	4	sp	6	3.00
Ismael Valdes	\$2,558,732.16	\$2,500,000.00	27	-0.05%	4	sp	8	(7.50)

Appendix E: Continued

Name	Marginal Revenue	Nash Salary	Age	Implied Discount Rate	Salary Quintile	Position	Var WS	Last Season
James Baldwin	\$2,324,829.75	\$1,250,000.00	30	-0.69%	2	sp	3	(2.00)
Jason Bere	\$318,492.97	\$800,000.00	28	3.61%	2	sp	1	(1.00)
Jason Bere	\$899,581.43	\$2,250,000.00	28	-2.79%	3	sp	6	5.50
Jason Giambi	\$17,722,456.07	\$10,428,571.00	30	3.46%	5	1b	8	4.00
Jason Isringhausen	\$2,068,083.33	\$2,750,000.00	29	3.72%	4	cl	10	7.00
Javy Lopez	\$4,815,777.30	\$6,000,000.00	31	2.03%	5	c	5	(0.50)
Jay Powell	\$2,045,968.10	\$2,250,000.00	29	-0.94%	3	rp	8	3.00
Jeff Brantley	\$988,103.54	\$500,000.00	36	-0.64%	1	cl	4	(2.00)
Jeff Brantley	\$713,355.65	\$650,000.00	36	1.27%	1	cl	4	0.00
Jeff Conine	\$2,531,696.67	\$2,500,000.00	33	0.18%	4	of	4	2.50
Jeff Fassero	\$3,391,319.37	\$2,000,000.00	36	-1.38%	3	sp	16	(14.50)
Jeff Fassero	\$2,561,114.53	\$2,400,000.00	36	1.21%	3	sp	13	0.50
Jeff Frye	\$603,571.14	\$1,000,000.00	34	0.79%	2	2b	8	6.50
Jeff Montgomery	\$2,361,323.54	\$200,000.00	36	-2.49%	1	cl	1	(0.50)
Jeffrey Hammonds	\$3,277,007.42	\$6,500,000.00	29	-2.92%	5	of	6	5.50
Jerry DiPoto	\$4,208,994.46	\$2,350,000.00	31	55.77%	3	rp	4	(2.50)
Joe Girardi	\$2,186,844.64	\$2,000,000.00	35	-0.40%	3	c	6	(5.00)
Joe Oliver	\$1,836,727.40	\$1,100,000.00	35	3.68%	2	c	6	5.50
Joey Hamilton	\$460,826.87	\$500,000.00	31	0.02%	1	sp	1	(0.50)
John Burkett	\$2,959,248.91	\$5,500,000.00	35	-2.03%	5	sp	11	10.50
John Burkett	\$2,943,604.86	\$750,000.00	35	-2.02%	1	sp	4	(2.50)
John Burkett	\$2,109,103.02	\$1,750,000.00	35	1.08%	3	sp	1	0.50
John Flaherty	\$3,116,235.53	\$2,947,410.00	32	0.30%	4	c	7	4.00
John Franco	\$3,558,289.32	\$3,583,333.00	40	-0.32%	4	rp	2	0.00
John Olerud	\$10,071,810.61	\$6,350,000.00	31	5.32%	5	1b	8	(4.50)
John Smoltz	\$3,159,146.47	\$7,666,667.00	34	40.57%	5	cl	18	(1.00)
John Valentin	\$1,895,569.59	\$550,000.00	30	-0.70%	1	ss	12	(5.00)
Jose Canseco	\$7,083,145.39	\$3,325,000.00	34	9.40%	4	dh	7	4.50
Jose Hernandez	\$2,603,378.12	\$3,333,333.00	30	-2.35%	4	ss	12	6.00
Jose Mesa	\$3,424,623.24	\$2,850,000.00	32	1.50%	4	cl	7	(6.50)
Jose Mesa	\$1,190,024.83	\$2,900,000.00	32	4.89%	4	cl	2	(2.00)
Jose Offerman	\$6,609,955.49	\$4,950,000.00	30	1.69%	5	2b	20	15.50
Jose Valentin	\$4,691,083.74	\$5,166,667.00	30	-0.37%	5	ss	12	8.50
Jose Vizcaino	\$1,460,852.83	\$1,500,000.00	32	0.06%	2	2b	5	(3.00)
Julian Tavarez	\$1,667,787.19	\$2,275,000.00	27	-1.69%	3	sp	9	7.00
Ken Caminiti	\$4,249,032.17	\$3,500,000.00	35	-2.25%	4	3b	11	(6.00)
Ken Caminiti	\$7,427,910.23	\$4,500,000.00	35	8.78%	4	3b	18	(12.00)
Kenny Lofton	\$5,707,075.57	\$1,025,000.00	34	-2.01%	2	of	4	(3.50)
Kent Bottenfield	\$2,913,396.62	\$2,000,000.00	32	-1.37%	3	sp	8	(3.00)
Kevin Brown	\$12,159,323.89	\$10,714,286.00	33	0.75%	5	sp	3	1.50
Kirt Manwaring	\$1,456,354.56	\$700,000.00	33	-1.56%	1	c	1	(0.50)
Lenny Harris	\$1,710,673.58	\$1,125,000.00	34	5.02%	2	3b	7	(3.50)

Appendix E: Continued

Name	Marginal Revenue	Nash Salary	Age	Implied Discount Rate	Salary Quintile	Position	Var WS	Last Season
Luis Alicea	\$1,641,897.62	\$800,000.00	34	50.51%	2	2b	11	7.00
Manny Ramirez	\$9,264,217.30	\$13,050,000.00	28	-1.29%	5	of	10	(3.00)
Mark Clark	\$3,767,731.30	\$4,000,000.00	30	0.66%	4	sp	6	(5.50)
Mark Gardner	\$952,020.21	\$1,750,000.00	36	1.92%	3	sp	9	3.50
Mark Gardner	\$2,073,070.55	\$2,000,000.00	36	0.24%	3	sp	2	1.50
Mark Lewis	\$2,486,354.37	\$600,000.00	29	56.59%	1	2b	5	(4.50)
Mark McLemore	\$3,293,578.05	\$3,150,000.00	35	0.37%	4	of	5	4.00
Mark Petkovsek	\$2,133,420.04	\$2,050,000.00	35	0.47%	3	rp	4	0.00
Mark Whiten	\$4,036,417.57	\$450,000.00	32	43.04%	1	of	9	(3.50)
Marty Cordova	\$1,640,237.22	\$500,000.00	30	-1.37%	1	of	3	2.00
Marty Cordova	\$2,508,704.89	\$2,500,000.00	30	0.01%	4	of	10	6.00
Midre Cummings	\$321,437.63	\$425,000.00	29	-2.49%	1	of	2	(1.00)
Miguel Batista	\$1,442,815.13	\$400,000.00	29	41.71%	1	sp	6	(6.00)
Mike Benjamin	\$923,115.99	\$700,000.00	33	1.46%	1	ss	7	6.00
Mike Bordick	\$5,877,626.97	\$4,500,000.00	35	2.76%	4	ss	4	1.00
Mike Hampton	\$6,017,344.90	\$10,500,000.00	28	-2.83%	5	sp	11	(1.50)
Mike Jackson	\$2,913,396.62	\$750,000.00	35	-2.88%	1	cl	16	(13.50)
Mike Jackson	\$4,284,083.14	\$3,000,000.00	35	4.28%	4	cl	5	(2.50)
Mike James	\$316,458.75	\$500,000.00	34	0.54%	1	rp	5	(1.50)
Mike Magnante	\$970,917.32	\$775,000.00	33	3.36%	2	rp	3	(1.50)
Mike Magnante	\$1,333,129.26	\$900,000.00	33	10.40%	2	rp	5	3.50
Mike Matheny	\$1,177,761.24	\$750,000.00	28	8.56%	1	c	5	(3.00)
Mike Morgan	\$2,860,794.15	\$750,000.00	42	126.65%	1	rp	5	(3.50)
Mike Munoz	\$715,534.27	\$750,000.00	34	-0.34%	1	rp	3	1.50
Mike Mussina	\$8,571,498.48	\$10,000,000.00	32	-1.33%	5	sp	3	2.00
Mike Stanton	\$3,638,775.38	\$2,400,000.00	32	9.69%	3	rp	5	(2.50)
Mike Trombley	\$3,091,263.45	\$2,250,000.00	32	3.37%	3	rp	5	3.00
Mike Williams	\$2,494,746.52	\$2,000,000.00	32	1.86%	3	cl	6	0.00
Mo Vaughn	\$11,658,856.81	\$7,166,666.00	31	26.08%	5	1b	7	(0.50)
Omar Olivares	\$2,451,462.16	\$4,000,000.00	32	-2.14%	4	sp	7	5.50
Orlando Merced	\$322,886.91	\$1,050,000.00	35	-2.91%	2	of	5	1.50
Ozzie Guillen	\$3,504,580.63	\$550,000.00	34	23.33%	1	ss	3	(1.50)
Pat Hentgen	\$3,430,770.36	\$4,500,000.00	32	2.14%	4	sp	2	1.00
Pat Mahomes	\$713,355.65	\$500,000.00	30	-2.56%	1	rp	7	(1.50)
Pat Rapp	\$1,633,054.42	\$1,650,000.00	31	-0.06%	3	sp	6	5.50
Pat Rapp	\$2,700,321.23	\$2,000,000.00	31	1.68%	3	sp	5	(5.00)
Paul O'Neill	\$12,613,670.67	\$7,250,000.00	37	21.45%	5	of	13	(8.00)
Pedro Astacio	\$6,412,879.05	\$4,000,000.00	32	-2.54%	4	sp	12	(8.00)
Pete Schourek	\$704,757.59	\$200,000.00	29	-0.84%	1	rp	4	0.00
Rafael Palmiero	\$8,899,251.16	\$8,849,931.00	34	0.06%	5	1b	12	0.00
Ramon Martinez	\$1,606,941.68	\$300,000.00	26	-0.65%	1	sp	6	(1.00)
Ramon Martinez	\$3,133,435.46	\$1,500,000.00	26	-1.48%	2	sp	4	(2.00)

Appendix E: Continued

Name	Marginal Revenue	Nash Salary	Age	Implied Discount Rate	Salary Quintile	Position	Var WS	Last Season
Randy Johnson	\$10,308,549.47	\$9,700,000.00	35	0.49%	5	sp	18	6.00
Randy Velarde	\$3,744,817.63	\$1,600,000.00	36	8.58%	3	2b	17	(0.50)
Reggie Sanders	\$4,677,541.10	\$1,750,000.00	33	35.13%	3	of	13	1.50
Rey Sanchez	\$1,727,756.50	\$1,200,000.00	31	2.26%	2	ss	3	2.00
Rey Sanchez	\$1,501,265.24	\$2,300,000.00	31	-2.18%	3	ss	5	4.50
Rich Becker	\$2,927,890.87	\$500,000.00	26	291.35%	1	of	7	(1.50)
Rick Reed	\$6,735,394.27	\$6,750,000.00	36	-0.02%	5	sp	8	(1.00)
Rickey Henderson	\$8,963,108.21	\$1,900,000.00	40	28.25%	3	of	5	4.50
Ricky Bottalico	\$1,086,716.67	\$1,500,000.00	30	1.55%	2	cl	10	(1.00)
Ricky Gutierrez	\$2,594,908.19	\$2,500,000.00	29	0.99%	4	ss	8	(2.00)
Rico Brogna	\$3,527,183.74	\$1,500,000.00	30	-2.25%	2	1b	13	(12.00)
Rob Ducey	\$399,961.86	\$400,000.00	33	0.00%	1	of	4	3.00
Roberto Alomar	\$9,310,674.21	\$7,049,966.00	30	9.60%	5	2b	12	(7.00)
Robin Ventura	\$8,592,790.88	\$7,000,000.00	31	5.31%	5	3b	13	7.00
Rod Beck	\$3,764,642.78	\$5,500,000.00	30	-2.74%	5	cl	3	2.00
Ron Gant	\$4,721,133.23	\$1,750,000.00	35	-2.69%	3	of	9	(6.50)
Rondell White	\$6,608,675.89	\$4,500,000.00	29	12.65%	4	of	3	(2.50)
Royce Clayton	\$4,606,368.44	\$4,500,000.00	28	0.32%	4	ss	1	(0.50)
Scott Brosius	\$3,518,565.10	\$5,250,000.00	32	-2.00%	5	3b	22	15.00
Scott Kamieniecki	\$1,466,399.78	\$1,850,000.00	35	0.77%	3	rp	12	(3.00)
Scott Karl	\$1,342,999.49	\$625,000.00	29	-0.70%	1	sp	8	(7.50)
Scott Radinsky	\$1,930,379.11	\$2,500,000.00	30	-1.07%	4	rp	2	1.00
Scott Sanders	\$1,597,317.40	\$825,000.00	29	-2.65%	2	rp	9	(6.00)
Scott Spiezio	\$3,694,515.86	\$600,000.00	27	27.30%	1	2b	4	(4.00)
Sean Berry	\$2,782,295.69	\$1,050,000.00	32	103.94%	2	3b	14	0.00
Shawon Dunston	\$946,445.85	\$1,000,000.00	35	-0.40%	2	of	2	1.00
Sterling Hitchcock	\$2,980,695.12	\$4,936,719.00	30	5.52%	5	sp	9	(3.50)
Steve Avery	\$1,044,664.53	\$750,000.00	28	-0.28%	1	sp	6	1.00
Steve Finley	\$13,244,804.96	\$5,375,000.00	33	11.95%	5	of	12	(8.00)
Steve Karsay	\$4,877,904.95	\$4,000,000.00	29	2.03%	4	rp	2	1.00
Steve Reed	\$845,846.15	\$500,000.00	35	-0.94%	1	rp	1	1.00
Steve Trachsel	\$4,511,911.97	\$1,000,000.00	29	-2.48%	2	sp	7	(5.00)
Steve Trachsel	\$5,289,169.13	\$3,000,000.00	29	3.43%	4	sp	7	1.50
T.J. Mathews	\$1,177,556.13	\$1,000,000.00	31	-0.59%	2	rp	8	(4.00)
Terry Mulholland	\$1,209,621.36	\$2,925,000.00	35	-2.21%	4	rp	8	6.00
Tim Belcher	\$4,570,765.92	\$750,000.00	37	-2.98%	1	sp	16	(8.00)
Tim Belcher	\$6,746,816.84	\$4,650,000.00	37	2.68%	5	sp	10	3.00
Tim Wakefield	\$3,373,723.06	\$3,000,000.00	34	-0.75%	4	sp	6	(4.50)
Tino Martinez	\$4,036,341.15	\$5,750,000.00	34	9.35%	5	1b	9	5.50
Todd Hollandsworth	\$1,610,603.31	\$2,750,000.00	27	-2.63%	4	of	2	1.50
Todd Hundley	\$2,688,479.22	\$3,500,000.00	31	0.93%	4	c	16	13.50
Todd Jones	\$2,308,813.18	\$1,000,000.00	33	-1.32%	2	cl	5	(5.00)

Appendix E: Continued								
Name	Marginal Revenue	Nash Salary	Age	Implied Discount Rate	Salary Quintile	Position	Var WS	Last Season
Todd Pratt	\$1,596,783.54	\$650,000.00	34	56.81%	1	c	3	(3.00)
Todd Stottlemire	\$8,265,114.83	\$8,000,000.00	33	0.26%	5	sp	3	1.50
Todd Van Poppel	\$1,252,411.34	\$2,000,000.00	30	-1.95%	3	rp	8	5.00
Todd Zeile	\$9,360,565.45	\$4,333,333.00	34	13.31%	4	1b	3	(0.50)
Tom Gordon	\$2,051,023.37	\$2,000,000.00	33	-0.09%	3	cl	17	(9.50)
Tom Lampkin	\$1,785,570.94	\$625,000.00	34	27.85%	1	c	1	(0.50)
Tom Lampkin	\$1,896,516.74	\$1,100,000.00	34	15.93%	2	c	4	(3.00)
Tony Gwynn	\$6,124,349.24	\$2,000,000.00	40	-2.88%	3	of	16	(15.50)
Tony Phillips	\$5,809,975.91	\$700,000.00	39	109.50%	1	of	14	(12.50)
Turk Wendell	\$5,340,071.72	\$3,100,000.00	33	6.40%	4	rp	2	(1.50)
Tyler Houston	\$872,128.99	\$835,000.00	28	0.93%	2	c	4	(2.50)
Vinny Castilla	\$3,003,609.35	\$3,000,000.00	34	0.00%	4	3b	10	6.00
Wilfredo Cordero	\$1,943,932.69	\$2,166,667.00	28	-0.40%	3	of	6	(4.50)