THE INFLUENCE OF CONFERENCE CHAMPIONSHIP GAMES ON COMPETITIVE BALANCE IN COLLEGE FOOTBALL

by

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Abstract

College football thrives on the ideas that each school has what it takes to be the best, rivalries are of major importance, and either team can win the game. Competitive balance is what keeps these thoughts alive, offering the last team in the conference the chance to beat their top-ranked opponent, or the mediocre middle-rank team the chance to win a post-season bowl game. Competitive balance provides the level of uncertainty of game outcome that keeps fans coming back every season. Previous research has examined many variables that have an effect on competitive balance. The purpose of this report is to step forward from where previous studies left off and examine the effect of the conference championship game on competitive balance. Five of the eleven NCAA Division I Football Bowl Subdivision conferences currently determine their conference champion by holding a championship game at the end of the season. Recent conference realignments bring about the possibility for two more conferences to establish championship games. Does hosting a conference championship game improve competitive balance within the league? This study examined several measures of competitive balance, including standard deviation measures, the competitive balance ratio, and Herfindahl-Hirschman Index. Results suggest a slightly higher level of competitive balance for conferences hosting championship games versus those that do not. However, these results are not statistically significant, and this higher level of competitive balance could be explained by the larger membership of conferences hosting championship games.

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I. Introduction

College football fans flock to stadiums across America every Saturday in the fall. Their loyalty to their team keeps them coming back year to year, and the uncertainty of the game makes it exciting week to week. Uncertainty comes from the level of competitive balance between the teams. A higher level of competitive balance makes the outcome of the contest more uncertain, the game more exciting to watch, and the level of demand for college football by the fans high. Rivalries are a huge part of college football, so conferences, especially the elite, seek to remain as stable as possible. However, considerable disparity in the drawing potential among conference teams, and the resulting lack of competitive balance, does lead to changes in conference membership.

A change in conference membership, or churning, is quite common in college football, though it is atypical at the prominent NCAA Division I Football Bowl Subdivision (FBS) level. Nonetheless, five of the eleven FBS conferences will either gain or lose membership in the next two years. These upcoming changes in conference membership have created the opportunity for two of the FBS conferences to establish divisions. Since they will fulfill the NCAA requirement of twelve teams in the league, they can establish a championship game to determine their conference champion. Neither the Pac-10 nor Big Ten have said whether they will add a championship game, but both now have the option. Would employing a championship game improve the conferences?

Previous research has examined many factors of competitive balance in college football, but one factor not yet analyzed is the conference championship game. Currently, five of the eleven NCAA FBS conferences determine their conference champion by a conference championship game. The top regular season teams of each of the two divisions within the

conference play against each other to determine overall conference champion. The other six FBS conferences rely solely on regular season win-loss records to decide their champions, and often award co-champions because of tied records. Does hosting a conference championship game affect competitive balance within the league? Perhaps structuring a conference to have divisions, the way the leagues with conference championship games do, increases competitive balance. This report will seek the answer. First, a discussion of the importance of competitive balance and its effects on the institutions will establish the need for this research. Next, a discussion of previous research will include factors demonstrated to either contribute to or deter competitive balance. Finally, an explanation of the methodology of this study, the data used, and the results obtained will be discussed, concluding with study limitations and recommendations for future study.

II. The Importance of Competitive Balance

1. What is competitive balance?

Competitive balance, or parity, is a state of stability and equilibrium in competitive events that facilitates fair and even competition. It is especially important in athletics because evenly matched teams create uncertain outcomes for a game, which makes the event more exciting to watch. There are several different measures of parity. Within-game parity promotes games that are more competitive. Within-season parity offers a smaller difference in winning percentage over the league. Across-season parity spreads out the top positions in a league (conference champion, bowl game representative) so that different teams earn those positions every year. A lack of competitive balance restricts the league's ability to improve overall performance on the field and supports lop-sided games and a loss of attractiveness for the league,

which eventually translates to a loss of interest by the fans, and thus a loss of income for the program.

2. What effect does competitive balance have on college football?

Intercollegiate athletics are not entirely separate from the success of the university to which they belong. The success of the athletic teams has an effect on more than one facet of university life, including the athletics themselves, academics at the university and the financial status of the school. The level of competitive balance in a conference has everything to do with the success of the individual teams within, so more competitive balance is positive for the conference overall.

DuMonde, Lynch and Platania (2007) found in their empirical model of college football recruiting that student athletes desire to play on successful teams and teams who are part of the best conferences. Thus, a tradition of winning will attract to the program the best potential recruits, and teams in dominant conferences will have an advantage over teams in weaker conferences. A team with great recruits should be able to continue their tradition of winning, likewise a conference with great teams should be able to continue asserting dominance over other conferences.

Studies on the effect of athletics on academics have shown mixed results. Goff (2004) found that athletic success has little effect on incoming student's SAT scores, but Tucker (2005) established that making bowl appearances did increase future student's SAT scores. Sandy and Sloan (2004) found that having a Division I football team also increases future class's SATs, and that an institution's football team moving up to the Division I-A level is also related to an increase in total enrollment of about 2000. Presumably, a good football team is an attractive asset

to potential students, so the success of intercollegiate football gives way to a larger and more highly desired applicant pool for potential scholars at that particular institution.

Previous studies also give mixed results about the effect of athletic success on the financial status of the university, due to the sensitivity of the analyses to what variables are included. An empirical study by Grimes and Chressanthis (1994) suggests that an institution's athletic success positively influences alumni donations. Humphreys and Mondello (2007) find that post-season bowl game appearances for Division I schools have positive effects on restricted donations. On the other hand, Litan, Orszag and Orszag (2003) found that the winning percentage of the football team is negatively associated with alumni donations at Division I-A schools. Humphreys (2006) found that fielding a Division I-A football program is related to an additional 8% in state appropriations annually, though athletic success in the form of national rankings and bowl game appearances have no effect. State governments may consider a Division I-A football program an investment, since football, men's basketball and men's ice hockey are the only collegiate athletic programs that show positive profits (Kahn, 2006).

III. Competitive Balance in College Football

1. What affects competitive balance in college football?

As the rule-making and enforcing body for collegiate athletics, the NCAA has influenced competitive balance between the teams and conferences in many ways. By restricting what institutions can do to entice athletes to join their program, the NCAA cartel is keeping weak teams down and allowing the top teams to more firmly secure their positions at the top (Eckard, 1998). Empirical evidence shows that greater enforcement of NCAA rules improves competitive balance, but that more severe punishment for violations of those rules decreases competitive

balance (Depken and Wilson, 2006). Sutter and Winkler (2003) found with time series analysis that the scholarship limits placed on college football squads by the NCAA have reduced competitive balance between teams in the same year, but have increased balance within the AP top 20. Essentially, parity is decreasing overall, but increasing within subgroups – competition between two top teams will be more even, but competition between a top team and a lower level opponent will become even more unbalanced. The NCAA acts as a cartel to promote amateurism within college athletics, but this cartel behavior does more than just keep the student athletes from being paid, it reduces competitive balance.

Studies have shown that several other variables have an effect on competitive balance. One is television exposure. The NCAA took control of college football broadcasts in the 1950s, and retained control until a lawsuit in 1984. The University of Oklahoma and the University of Georgia Athletic Associations sued the NCAA for the right for individual institutions to make telecast deals and decisions for themselves. The Supreme Court ruled in favor of the universities, and subsequent studies have indicated that this decision has promoted competitive balance (Bennett and Fizel, 1995). The creation of the Bowl Championship Series (BCS) has improved within-season competitive balance for all six founding BCS universities (Dittmore and Crow, 2010). Conference expansion also increases competitive balance, as shown in a statistical study by Perline and Stoldt (2007).

IV. Empirical Study

1. Methodology

A. Measures of Competitive Balance

The appropriate analysis to use when measuring competitive balance depends on the context in which the parity lies. For within-season parity, methods such as the average standard

deviation of a team winning percentage, or a ratio relating the actual standard deviation to the idealized value are the best measures (Quirk and Fort, 1992; Bennett and Fizel, 1995). Brad Humphreys (2002) suggests another measure, the Competitive Balance Ratio (CBR), to reveal the average amount of team-specific variation in winning percentage not shown by the standard deviation approach. To discover variation between seasons, the common method is to calculate the Herfindahl-Hirschman Index (HHI) of championship winners (Leeds and von Allmen, 2005; Owen, Ryan and Weatherston, 2008).

(i) Measures of Dispersion

The standard deviation approach is the most commonly used method for measuring variations in parity within a conference for a given season. Standard deviation is the average distance that observations lie from the mean. In this case, the mean is the average winning percentage of .500 (half wins, half losses) and the observations are the actual winning percentages of each specific team within the conference. If $WPCT_{i,t}$ is the winning percentage for team *i* in season *t*, out of a total of *N* teams during a total of *T* seasons, then the equation for average standard deviation is:[1]

$$\sigma_{Actual} = \sqrt{\frac{\sum_{i=1}^{N}\sum_{t=1}^{T}\left(WPCT_{i,t} - 0.500\right)^2}{NT}}.$$

A larger standard deviation means there is greater dispersion in the observations and thus that there is less competitive balance. This method has several flaws, one of which is that an increasing number of games will even out the deviation from the average. To combat this, researchers often use an adjusted standard deviation. The ratio of actual standard deviation to its idealized value measures competitive balance within a given season, with values close to one

[1] Equations for measures of dispersion are taken from Humphreys (2002).

indicating the most competitive balance. If *G* is the number of games played by each team in the season, then the equation to calculate the ideal value of standard deviation is:

$$\sigma_{Idealized} = \frac{0.500}{\sqrt{G}}.$$

Thus, the ratio of actual standard deviation to idealized standard deviation, the measure of competitive balance in a conference within a given season, is:

$$Ratio = \frac{\sigma_{Actual}}{\sigma_{Idealized}}.$$

Also included in the dispersion measures are the range and interquartile range (IQR) of the winning percentages of teams within the leagues. The range measures the difference in winning percentage between the top and bottom teams in the league. A small value for this measure implies more competitive balance because the teams have more even win/loss records. The interquartile range measures the dispersion of the middle 50% of teams. A small value for IQR also implies more parity in the league, as this measure computes the range of winning percentage for the teams in the middle of the conference.

(ii) Competitive Balance Ratio

The standard deviation method cannot capture variation in relative team standings within a conference over time. This is solved by using the competitive balance ratio (CBR), which compares two measures of average variation in winning percentage to indicate the relative magnitude in the variation in time versus the variation in season for teams in a conference across a number of seasons. The CBR and standard deviation measures are inversely related, and the CBR reflects the team-specific variation in winning percentage that the standard deviation does not. Larger values for the CBR indicate a higher level of competitive balance.

Let $\overline{WPCT_i}$ be each team's average winning percentage over *T* seasons. The equation to calculate the standard deviation of winning percentage across seasons for each individual team is:[2]

$$\sigma_{T,i} = \sqrt{\frac{\sum_{t=1}^{T}\left(WPCT_{i,t} - \overline{WPCT_i}\right)^2}{T}}.$$

Then the average value over all the teams is:

$$\bar{\sigma}_T = \frac{\sum_{t=1}^{T}\sigma_{T,i}}{N}.$$

The equation to calculate the standard deviation of winning percentage for all teams in each season individually is:

$$\sigma_{N,t} = \sqrt{\frac{\sum_{t=1}^{T}\left(WPCT_{i,t} - 0.500\right)^2}{N}},$$

and the average value over all seasons is:

$$\bar{\sigma}_N = \frac{\sum_{t=1}^{T}\sigma_{N,t}}{T}.$$

Then the equation for competitive balance ratio is:

$$CBR = \frac{\bar{\sigma}_T}{\bar{\sigma}_N}.$$

(iii) Herfindahl-Hirschman Index

The Herfindahl-Hirschman Index (HHI) is the standard measure for between-season variation. It reflects the turnover of winners from season to season. More teams claiming a conference championship title within a period leads to greater competitive balance within the conference and thus a lower HHI value. Champions earn one point for each championship won within the period. Some conferences have the possibility of co-champions, so the championship

[2] Equations for competitive balance ratio are taken from Humphreys (2002).

point is split equally between all institutions claiming the title for that year. For the *m* number of teams that won a championship in the *T* season period, then the equation for computing HHI is:[3]

$$HHI = \sum_{i=1}^{m} \left(\frac{n_i}{T}\right)^2 ,$$

where n_i is the number of times team *i* won the championship in the period. This is a measure of the market share of championships for each team within the conference.

For a simple example of this measure, consider the Big XII. In the 2005 to 2009 seasons, Texas won the championship twice, and Oklahoma won three times. Thus Texas holds 40% of the market share of Big XII championships in the period, and Oklahoma holds 60% of the market share. Every other team in the league holds 0% of the market share for championships in the period. Square the market share values for all teams, and sum the resulting values. The equation and result for the Big XII is:

$$HHI = \sum_{i=1}^{m} \left(\frac{n_i}{T}\right)^2 = \left(\frac{2}{5}\right)^2 + \left(\frac{3}{5}\right)^2 = .16 + .36 = .52 .$$

B. Measures of Statistical Significance

Standard methods for comparing two independent groups include an examination of how significant the differences between the groups are. An F-test will be performed on each measure of competitive balance to determine if the variance of the measure for the group that hosts championship games is equal to that of the group that does not a host championship game. Once the equality or inequality of variance has been determined, the corresponding t-test will be performed to determine if there is a significant difference between the groups.

[3] Equation for HHI is adapted from equations in Owen, Ryan and Weatherston (2008).

2. Data

The data is from the Official NCAA Division I Football Records Books. All tables included in this report were constructed using this data. Because this study seeks to compare the difference in competitive balance between conferences with and without conference championship games, a period of five seasons (2005-2009) was chosen to conduct the study on the eleven FBS conferences. The data used are the league win/loss records for each team. To maintain a relatively stable balance from season-to-season, these five years are relatively free of conference realignments, as well as any other established motivator of competitive balance. The NCAA Division I FBS conferences are examined not only because of the recent conference realignments and potential new conference championship games are contained within this set, but also because most of the conferences holding conference championships are FBS leagues, and they should be compared to similar conferences.

Two FBS conferences, the Mid-American and Sun Belt Conferences, each added one institution to their roster during the five-year period of study. As suggested by Humphreys (2002), the additional team was removed from the data and subsequent calculations to preserve the already established level of competitive balance in the league.[4]

V. Results

1. Measures of Competitive Balance

The ACC demonstrates the lowest value for all indicators with the exception of the CBR, and is thus the most balanced league, on average, of all the conferences in this study. The WAC

[4] See Tables A.3 and A.4, "XXXX" indicates a conference record that was removed. Records for all teams in the conference that year were adjusted to reflect the removal of this team.

is the least balanced league, with the highest values for all indicators except HHI (2nd highest) and CBR (lowest), the values of which also indicate an imbalanced league. See Table 5.1 for summarized results of all of the measures of competitive balance.

Table 1 - Compiled Results of Competitive Balance Measures for NCAA FBS Conferences

Conference	Standard Deviation (σ_{Actual})	Standard Deviation Ratio ($\sigma_{Actual}/\sigma_{Idealized}$)	Range of Winning Percentage	Interquartile Range of Winning Percentage	Hirfindahl-Hirschman Index (HHI)	Competitive Balance Ratio (CBR)
ACC*	0.2117	1.1975	0.7556	0.2563	0.28	0.4044
Big XII*	0.2481	1.4037	0.8528	0.3271	0.52	0.4222
Big East	0.2556	1.3522	0.7714	0.3571	0.30	0.5391
Big Ten	0.2611	1.4771	0.8250	0.3750	0.68	0.4561
CUSA*	0.2450	1.3858	0.8028	0.3458	0.28	0.4531
MAC*	0.2439	1.3796	0.8171	0.3289	0.48	0.5045
MWC	0.2826	1.5986	0.9000	0.3750	0.36	0.4482
Pac-10	0.2410	1.4463	0.7750	0.3201	0.42	0.4837
SEC*	0.2541	1.4376	0.8000	0.3688	0.28	0.4616
Sun Belt	0.2524	1.3356	0.7714	0.2929	0.39	0.5301
WAC	0.2947	1.6673	0.9000	0.4000	0.54	0.3885

*Hosts a Conference Championship Game

Mean Values						
Conferences with championship games	0.2406	1.3608	0.8056	0.3254	0.3680	0.4492
Conferences without championship games	0.2646	1.4795	0.8238	0.3534	0.4488	0.4743

The leagues that host conference championship games demonstrate average values that indicate a higher level of competitive balance for all measures except CBR. However, even though the average values indicate more parity in the leagues hosting conference championship games, the breakdown of individual conferences shows a mixed result. Table 5.2 shows the leagues in the study ranked in order of the value of the competitive balance measure from most balanced to least. The measures of dispersion indicate that leagues hosting a championship game

are, on average, more balanced within season than the other leagues. The HHI and CBR show no real trend, signaling that perhaps there is not a real difference between the two groups of conferences in between season competitive balance.

Table 2 - FBS Conferences Ranked – Greatest Competitive Balance to Least

Standard Deviation (σ_{Actual})	Standard Deviation Ratio ($\sigma_{Actual}/\sigma_{Idealized}$)	Range of Winning Percentage	Interquartile Range of Winning Percentage	Hirfindahl-Hirschman Index (HHI)	Competitive Balance Ratio (CBR)
ACC*	ACC*	ACC*	ACC*	ACC*	Big East
Pac-10	Sun Belt	Sun Belt	Sun Belt	CUSA*	Sun Belt
MAC*	Big East	Big East	Pac-10	SEC*	MAC*
CUSA*	MAC*	Pac-10	Big XII*	Big East	Pac-10
Big XII*	CUSA*	SEC*	MAC*	MWC	SEC*
Sun Belt	Big XII*	CUSA*	CUSA*	Sun Belt	Big Ten
SEC*	SEC*	MAC*	Big East	Pac-10	CUSA*
Big East	Pac-10	Big Ten	SEC*	MAC*	MWC
Big Ten	Big Ten	Big XII*	Big Ten	Big XII*	Big XII*
MWC	MWC	MWC	MWC	WAC	ACC*
WAC	WAC	WAC	WAC	Big Ten	WAC

*Hosts a Conference Championship Game

2. Measures of Statistical Significance

The F-test for equality of variances produced F values between 0.3145 and 1.1237, and p-values between .1426 and .4394 for the measures of competitive balance. P-values greater than .05 indicate that the null hypothesis of equal variance between the groups cannot be rejected for all of the measures of competitive balance. The t-test, assuming equal variances, computed p-values ranging from .0626 to .5783. Again, large p-values signify that the null hypothesis cannot be rejected, thus there is no significant difference between the mean values of any of the measures of competitive balance. Table 5.3 provides a summary of the statistical values.

Table 3 - Summary of Statistical Examination of Competitive Balance Measures

	F-Test for equality of variances		t-test for significance	
Measure of Competitive Balance	F statistic	p-value	t statistic	p-value
Standard Deviation	0.6810	0.3656	-2.1239	0.0626
Standard Deviation Ratio	0.5057	0.2643	-1.6772	0.1278
Range of Winning Percentage	0.3145	0.1426	-0.5767	0.5783
Interquartile Range of Winning Percentage	1.1237	0.4394	-1.1332	0.2864
Hirfindahl-Hirschman Index	0.7688	0.4111	-1.0186	0.3350
Competitive Balance Ratio	0.4731	0.2441	-0.8438	0.4206

VI. Conclusions

The data examined in this study indicates that on average, leagues hosting conference championship games have more parity both within-season and in champion turnover than leagues without championship games. The values of the competitive balance ratio imply that conferences that do not host a championship game have more competitive balance in relative standing within the conference over time. Numerically, the differences in the measures of competitive balance between the two groups of conferences are small. The differences are so small that they are not statistically significant, and thus overall, these differences seem to be negligible. Given the data studied and techniques applied, championship games do not appear to affect competitive balance within conferences.

Though there is no significant difference between the two groups of leagues, we can examine the slight differences in the competitive balance measures to begin discussion on differences in the way the leagues function. In conferences that host championship games, measures of parity indicate that teams are more balanced throughout the league, thus games are more sporting and exciting to watch. However, teams also remain relatively constant in their standing within the league, so these exciting games have rather predictable outcomes. In conferences without championship games, there is churning in the teams in the middle of

conference standings, but a relatively stable set of schools on the top. The stability of the top teams could be related to the opportunity for ties for the championship – had these conferences determined their champion with an athletic contest, one winner would have been crowned and the values for HHI could have been completely different, changing the between-season balance of the league.

Another issue to consider is the fact that conferences that host championship games have a larger number of members than the other conferences. As stated previously, studies have shown a positive relationship between the size of conferences and the level of competitive balance. It is possible that the slight advantage in parity seen for the championship game hosting conferences is due to their larger membership. Further study is necessary to determine if that is the case.

Another limitation of this study is the data itself. The dataset is very small, so there is great potential for imprecision in the measures. It is possible that there actually is a difference between the two groups, but the small dataset makes detecting it impossible. When calculating statistical measures, the data was assumed to fit the normal distribution. The dataset is too small to determine if it really does fit the distribution, so a better technique might be to perform a bootstrapping method on the data, and carry out statistical tests with those results, thus removing the sensitivity of the normality assumption.

Future study is necessary to determine if the findings in this analysis are consistent with real life. Expanding the data by including more conferences or more years in the study might show trends in the measures of competitive balance that are more robust, and thus offer a stronger argument for the effect (or lack thereof) of the championship game. A study comparing two conferences similar in size and history, one with a championship game and one without, might also give more details about the effect of the championship game, while keeping other

variables from affecting the results. Similarly, if either the Pac-10 or Big Ten adds a conference championship game to their schedule in upcoming years, the data prior to and after this addition could be useful in studying the effects of the championship game. Data from the Big XII could also yield results, as it will be losing membership in the conference churning and can no longer hold a conference championship game. Perhaps this data could support competitive balance studies showing the effect of decreased membership or removing the conference championship game.

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Appendix A - Raw Data

Table A.1 - Wins, Losses and Winning Percentage by Team

Conference	Institution	2005			2006			2007			2008			2009		
		Wins	Losses	WPCT	Wins	Losses	WPCT	Wins	Losses	WPCT	Wins	Losses	WPCT	Wins	Losses	WPCT
ACC	Boston College	5	3	0.625	5	3	0.625	6	2	0.750	5	3	0.625	5	3	0.625
	Clemson	4	4	0.500	5	3	0.625	5	3	0.625	4	4	0.500	6	2	0.750
	Duke	0	8	0.000	0	8	0.000	0	8	0.000	1	7	0.125	3	5	0.375
	Florida State	5	3	0.625	3	5	0.375	4	4	0.500	5	3	0.625	4	4	0.500
	Georgia Tech	5	3	0.625	7	2	0.778	4	4	0.500	5	3	0.625	7	1	0.875
	Maryland	3	5	0.375	5	3	0.625	3	5	0.375	4	4	0.500	1	7	0.125
	Miami	6	2	0.750	4	5	0.444	2	6	0.250	4	4	0.500	5	3	0.625
	North Carolina	4	4	0.500	2	6	0.250	3	5	0.375	4	4	0.500	4	4	0.500
	North Carolina State	3	5	0.375	2	6	0.250	3	5	0.375	4	4	0.500	2	6	0.250
	Virginia	3	5	0.375	4	4	0.500	6	2	0.750	3	5	0.375	2	6	0.250
	Virginia Tech	7	1	0.875	6	2	0.750	7	1	0.875	5	3	0.625	6	2	0.750
	Wake Forest	3	5	0.375	7	2	0.778	5	3	0.625	4	4	0.500	3	5	0.375
Big XII	Baylor	2	6	0.250	3	5	0.375	0	8	0.000	2	6	0.250	1	7	0.125
	Colorado	5	3	0.625	2	6	0.250	4	4	0.500	2	6	0.250	2	6	0.250
	Iowa State	4	4	0.500	1	7	0.125	2	6	0.250	0	8	0.000	3	5	0.375
	Kansas	3	5	0.375	3	5	0.375	7	1	0.875	4	4	0.500	1	7	0.125
	Kansas State	2	6	0.250	4	4	0.500	3	5	0.375	2	6	0.250	4	4	0.500
	Missouri	4	4	0.500	4	4	0.500	7	1	0.875	5	3	0.625	4	4	0.500
	Nebraska	4	4	0.500	6	3	0.667	2	6	0.250	5	3	0.625	6	2	0.750
	Oklahoma	6	2	0.750	8	1	0.889	6	2	0.750	7	1	0.875	5	3	0.625
	Oklahoma State	1	7	0.125	3	5	0.375	4	4	0.500	5	3	0.625	6	2	0.750
	Texas	8	0	1.000	6	2	0.750	5	3	0.625	7	1	0.875	8	0	1.000
	Texas A&M	3	5	0.375	5	3	0.625	4	4	0.500	2	6	0.250	3	5	0.375
	Texas Tech	6	2	0.750	4	4	0.500	4	4	0.500	7	1	0.875	5	3	0.625

Table A.2 - Wins, Losses and Winning Percentage by Team (cont.)

Conference	Institution	2005			2006			2007			2008			2009		
		Wins	Losses	WPCT	Wins	Losses	WPCT	Wins	Losses	WPCT	Wins	Losses	WPCT	Wins	Losses	WPCT
Big East	Cincinnati	2	5	0.286	4	3	0.571	4	3	0.571	6	1	0.857	7	0	1.000
	Connecticut	2	5	0.286	1	6	0.143	5	2	0.714	3	4	0.429	3	4	0.429
	Louisville	5	2	0.714	6	1	0.857	3	4	0.429	1	6	0.143	1	6	0.143
	Pittsburgh	4	3	0.571	2	5	0.286	3	4	0.429	5	2	0.714	5	2	0.714
	Rutgers	4	3	0.571	5	2	0.714	3	4	0.429	5	2	0.714	3	4	0.429
	South Florida	4	3	0.571	4	3	0.571	4	3	0.571	2	5	0.286	3	4	0.429
	Syracuse	0	7	0.000	1	6	0.143	1	6	0.143	1	6	0.143	1	6	0.143
	West Virginia	7	0	1.000	5	2	0.714	5	2	0.714	5	2	0.714	5	2	0.714
Big Ten	Illinois	0	8	0.000	1	7	0.125	6	2	0.750	3	5	0.375	2	6	0.250
	Indiana	1	7	0.125	3	5	0.375	3	5	0.375	1	7	0.125	1	7	0.125
	Iowa	5	3	0.625	2	6	0.250	4	4	0.500	5	3	0.625	6	2	0.750
	Michigan	5	3	0.625	7	1	0.875	6	2	0.750	2	6	0.250	1	7	0.125
	Michigan State	2	6	0.250	1	7	0.125	3	5	0.375	6	2	0.750	4	4	0.500
	Minnesota	4	4	0.500	3	5	0.375	0	8	0.000	3	5	0.375	3	5	0.375
	Northwestern	5	3	0.625	2	6	0.250	3	5	0.375	5	3	0.625	5	3	0.625
	Ohio State	7	1	0.875	8	0	1.000	7	1	0.875	7	1	0.875	7	1	0.875
	Penn State	7	1	0.875	5	3	0.625	4	4	0.500	7	1	0.875	6	2	0.750
	Purdue	3	5	0.375	5	3	0.625	3	5	0.375	2	6	0.250	4	4	0.500
	Wisconsin	5	3	0.625	7	1	0.875	5	3	0.625	3	5	0.375	5	3	0.625
CUSA	East Carolina	4	4	0.500	5	3	0.625	6	2	0.750	6	2	0.750	7	1	0.875
	Houston	4	4	0.500	8	1	0.889	6	2	0.750	6	2	0.750	6	2	0.750
	Marshall	3	5	0.375	4	4	0.500	3	5	0.375	3	5	0.375	4	4	0.500
	Memphis	5	3	0.625	1	7	0.125	6	2	0.750	4	4	0.500	1	7	0.125
	Rice	1	7	0.125	6	2	0.750	3	5	0.375	7	1	0.875	2	6	0.250
	Southern Methodist	4	4	0.500	4	4	0.500	0	8	0.000	0	8	0.000	6	2	0.750
	Southern Miss	5	3	0.625	6	3	0.667	5	3	0.625	4	4	0.500	5	3	0.625
	Tulane	1	7	0.125	2	6	0.250	3	5	0.375	1	7	0.125	1	7	0.125
	Tulsa	6	2	0.750	5	3	0.625	6	2	0.750	7	1	0.875	3	5	0.375
	UAB	3	5	0.375	2	6	0.250	1	7	0.125	3	5	0.375	4	4	0.500
	UCF	7	1	0.875	3	5	0.375	7	1	0.875	3	5	0.375	6	2	0.750
	UTEP	5	3	0.625	3	5	0.375	2	6	0.250	4	4	0.500	3	5	0.375

Table A.3 - Wins, Losses and Winning Percentage by Team (cont.)

Conference	Institution	2005			2006			2007			2008			2009		
		Wins	Losses	WPCT	Wins	Losses	WPCT	Wins	Losses	WPCT	Wins	Losses	WPCT	Wins	Losses	WPCT
MAC	Akron	5	3	0.625	3	5	0.375	3	4	0.429	3	4	0.429	2	5	0.286
	Ball State	4	4	0.500	5	3	0.625	5	2	0.714	8	0	1.000	2	5	0.286
	Bowling Green	5	3	0.625	3	5	0.375	5	2	0.714	4	4	0.500	6	2	0.750
	Buffalo	1	7	0.125	1	7	0.125	4	3	0.571	4	3	0.571	3	4	0.429
	Central Michigan	5	3	0.625	8	1	0.889	6	1	0.857	5	2	0.714	8	0	1.000
	Eastern Michigan	3	5	0.375	1	7	0.125	3	4	0.429	2	5	0.286	0	7	0.000
	Kent State	0	8	0.000	5	4	0.556	1	6	0.143	2	5	0.286	4	3	0.571
	Miami (OH)	5	3	0.625	2	6	0.250	5	1	0.833	1	6	0.143	1	6	0.143
	Northern Illinois	6	2	0.750	5	3	0.625	1	5	0.167	5	3	0.625	5	3	0.625
	Ohio	3	5	0.375	7	2	0.778	3	4	0.429	3	4	0.429	6	1	0.857
	Temple							XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX	XXXX
	Toledo	6	2	0.750	3	5	0.375	3	5	0.375	2	6	0.250	3	4	0.429
	Western Michigan	5	3	0.625	6	2	0.750	2	4	0.333	5	2	0.714	4	4	0.500
MWC	Air Force	3	5	0.375	3	5	0.375	6	2	0.750	5	3	0.625	5	3	0.625
	Brigham Young	5	3	0.625	8	0	1.000	8	0	1.000	6	2	0.750	7	1	0.875
	Colorado State	5	3	0.625	1	7	0.125	2	6	0.250	4	4	0.500	0	8	0.000
	New Mexico	4	4	0.500	4	4	0.500	5	3	0.625	2	6	0.250	1	7	0.125
	San Diego State	4	4	0.500	3	5	0.375	3	5	0.375	1	7	0.125	2	6	0.250
	TCU	8	0	1.000	6	2	0.750	4	4	0.500	7	1	0.875	8	0	1.000
	UNLV	1	7	0.125	1	7	0.125	1	7	0.125	2	6	0.250	3	5	0.375
	Utah	4	4	0.500	5	3	0.625	5	3	0.625	8	0	1.000	6	2	0.750
	Wyoming	2	6	0.250	5	3	0.625	2	6	0.250	1	7	0.125	4	4	0.500
Pac-10	Arizona	2	6	0.250	4	5	0.444	4	5	0.444	5	4	0.556	6	3	0.667
	Arizona State	4	4	0.500	5	5	0.500	7	2	0.778	4	5	0.444	2	7	0.222
	California	4	4	0.500	7	2	0.778	3	6	0.333	6	3	0.667	5	4	0.556
	Oregon	7	1	0.875	5	5	0.500	5	4	0.556	7	2	0.778	8	1	0.889
	Oregon State	3	5	0.375	6	3	0.667	6	3	0.667	7	2	0.778	6	3	0.667
	Stanford	4	4	0.500	1	8	0.111	3	6	0.333	4	5	0.444	6	3	0.667
	UCLA	6	2	0.750	5	4	0.556	5	4	0.556	3	6	0.333	3	6	0.333
	USC	8	0	1.000	7	2	0.778	7	2	0.778	8	1	0.889	5	4	0.556
	Washington	1	7	0.125	3	6	0.333	2	7	0.222	0	9	0.000	4	5	0.444
	Washington State	1	7	0.125	4	5	0.444	3	6	0.333	1	8	0.111	0	9	0.000

Table A.4 - Wins, Losses and Winning Percentage by Team (cont.)

Conference	Institution	2005			2006			2007			2008			2009		
		Wins	Losses	WPCT	Wins	Losses	WPCT	Wins	Losses	WPCT	Wins	Losses	WPCT	Wins	Losses	WPCT
SEC	Alabama	6	2	0.750	2	6	0.250	4	4	0.500	8	0	1.000	8	0	1.000
	Arkansas	2	6	0.250	7	1	0.875	4	4	0.500	2	6	0.250	3	5	0.375
	Auburn	7	1	0.875	6	2	0.750	5	3	0.625	2	6	0.250	3	5	0.375
	Florida	5	3	0.625	7	1	0.875	5	3	0.625	7	1	0.875	8	0	1.000
	Georgia	6	2	0.750	4	4	0.500	6	2	0.750	6	2	0.750	4	4	0.500
	Kentucky	2	6	0.250	4	4	0.500	3	5	0.375	2	6	0.250	3	5	0.375
	LSU	7	1	0.875	6	2	0.750	6	2	0.750	3	5	0.375	5	3	0.625
	Mississippi	1	7	0.125	2	6	0.250	0	8	0.000	5	3	0.625	4	4	0.500
	Mississippi State	1	7	0.125	1	7	0.125	4	4	0.500	2	6	0.250	3	5	0.375
	South Carolina	5	3	0.625	3	5	0.375	3	5	0.375	4	4	0.500	3	5	0.375
	Tennessee	3	5	0.375	5	3	0.625	6	2	0.750	3	5	0.375	4	4	0.500
	Vanderbilt	3	5	0.375	1	7	0.125	2	6	0.250	4	4	0.500	0	8	0.000
Sun Belt	Arkansas State	5	2	0.714	4	3	0.571	3	4	0.429	3	3	0.500	2	5	0.286
	Florida Atlantic	2	5	0.286	4	3	0.571	6	1	0.857	4	2	0.667	4	3	0.571
	Florida International	3	4	0.429	0	7	0.000	1	6	0.143	3	4	0.429	2	5	0.286
	Louisiana-Lafayette	5	2	0.714	3	4	0.429	3	4	0.429	5	2	0.714	3	4	0.429
	Louisiana-Monroe	5	2	0.714	3	4	0.429	4	3	0.571	3	4	0.429	4	3	0.571
	Middle Tennessee	3	4	0.429	6	1	0.857	4	3	0.571	3	4	0.429	6	1	0.857
	North Texas	2	5	0.286	2	5	0.286	1	6	0.143	0	7	0.000	0	7	0.000
	Troy	3	4	0.429	6	1	0.857	6	1	0.857	6	1	0.857	7	0	1.000
	Western Kentucky													XXXX	XXXX	XXXX
WAC	Boise State	7	1	0.875	8	0	1.000	7	1	0.875	8	0	1.000	8	0	1.000
	Fresno State	6	2	0.750	4	5	0.444	6	2	0.750	4	4	0.500	6	2	0.750
	Hawaii	4	4	0.500	7	1	0.875	8	0	1.000	5	3	0.625	3	5	0.375
	Idaho	2	6	0.250	3	5	0.375	0	8	0.000	1	7	0.125	4	4	0.500
	Louisiana Tech	6	2	0.750	1	7	0.125	4	4	0.500	5	3	0.625	3	5	0.375
	Nevada	7	1	0.875	5	3	0.625	4	4	0.500	5	3	0.625	7	1	0.875
	New Mexico State	0	8	0.000	2	6	0.250	1	7	0.125	1	7	0.125	1	7	0.125
	San Jose State	2	6	0.250	5	3	0.625	4	4	0.500	4	4	0.500	1	7	0.125
	Utah State	2	6	0.250	1	7	0.125	2	6	0.250	3	5	0.375	3	5	0.375

Table A.5 - Winning Percentage by Team

Conference	Institution	2005	2006	2007	2008	2009	**AVG WPCT**
ACC	Boston College	0.625	0.625	0.750	0.625	0.625	0.650
	Clemson	0.500	0.625	0.625	0.500	0.750	0.600
	Duke	0.000	0.000	0.000	0.125	0.375	0.100
	Florida State	0.625	0.375	0.500	0.625	0.500	0.525
	Georgia Tech	0.625	0.778	0.500	0.625	0.875	0.681
	Maryland	0.375	0.625	0.375	0.500	0.125	0.400
	Miami	0.750	0.444	0.250	0.500	0.625	0.514
	North Carolina	0.500	0.250	0.375	0.500	0.500	0.425
	North Carolina State	0.375	0.250	0.375	0.500	0.250	0.350
	Virginia	0.375	0.500	0.750	0.375	0.250	0.450
	Virginia Tech	0.875	0.750	0.875	0.625	0.750	0.775
	Wake Forest	0.375	0.778	0.625	0.500	0.375	0.531
Big XII	Baylor	0.250	0.375	0.000	0.250	0.125	0.200
	Colorado	0.625	0.250	0.500	0.250	0.250	0.375
	Iowa State	0.500	0.125	0.250	0.000	0.375	0.250
	Kansas	0.375	0.375	0.875	0.500	0.125	0.450
	Kansas State	0.250	0.500	0.375	0.250	0.500	0.375
	Missouri	0.500	0.500	0.875	0.625	0.500	0.600
	Nebraska	0.500	0.667	0.250	0.625	0.750	0.558
	Oklahoma	0.750	0.889	0.750	0.875	0.625	0.778
	Oklahoma State	0.125	0.375	0.500	0.625	0.750	0.475
	Texas	1.000	0.750	0.625	0.875	1.000	0.850
	Texas A&M	0.375	0.625	0.500	0.250	0.375	0.425
	Texas Tech	0.750	0.500	0.500	0.875	0.625	0.650
Big East	Cincinnati	0.286	0.571	0.571	0.857	1.000	0.657
	Connecticut	0.286	0.143	0.714	0.429	0.429	0.400
	Louisville	0.714	0.857	0.429	0.143	0.143	0.457
	Pittsburgh	0.571	0.286	0.429	0.714	0.714	0.543
	Rutgers	0.571	0.714	0.429	0.714	0.429	0.571
	South Florida	0.571	0.571	0.571	0.286	0.429	0.486
	Syracuse	0.000	0.143	0.143	0.143	0.143	0.114
	West Virginia	1.000	0.714	0.714	0.714	0.714	0.771
Big Ten	Illinois	0.000	0.125	0.750	0.375	0.250	0.300
	Indiana	0.125	0.375	0.375	0.125	0.125	0.225
	Iowa	0.625	0.250	0.500	0.625	0.750	0.550
	Michigan	0.625	0.875	0.750	0.250	0.125	0.525
	Michigan State	0.250	0.125	0.375	0.750	0.500	0.400
	Minnesota	0.500	0.375	0.000	0.375	0.375	0.325
	Northwestern	0.625	0.250	0.375	0.625	0.625	0.500
	Ohio State	0.875	1.000	0.875	0.875	0.875	0.900
	Penn State	0.875	0.625	0.500	0.875	0.750	0.725
	Purdue	0.375	0.625	0.375	0.250	0.500	0.425
	Wisconsin	0.625	0.875	0.625	0.375	0.625	0.625

Table A.6 - Winning Percentage by Team (cont.)

Conference	Institution	2005	2006	2007	2008	2009	**AVG WPCT**
CUSA	East Carolina	0.500	0.625	0.750	0.750	0.875	0.700
	Houston	0.500	0.889	0.750	0.750	0.750	0.728
	Marshall	0.375	0.500	0.375	0.375	0.500	0.425
	Memphis	0.625	0.125	0.750	0.500	0.125	0.425
	Rice	0.125	0.750	0.375	0.875	0.250	0.475
	Southern Methodist	0.500	0.500	0.000	0.000	0.750	0.350
	Southern Miss	0.625	0.667	0.625	0.500	0.625	0.608
	Tulane	0.125	0.250	0.375	0.125	0.125	0.200
	Tulsa	0.750	0.625	0.750	0.875	0.375	0.675
	UAB	0.375	0.250	0.125	0.375	0.500	0.325
	UCF	0.875	0.375	0.875	0.375	0.750	0.650
	UTEP	0.625	0.375	0.250	0.500	0.375	0.425
MAC	Akron	0.625	0.375	0.429	0.429	0.286	0.400
	Ball State	0.500	0.625	0.714	1.000	0.286	0.618
	Bowling Green	0.625	0.375	0.714	0.500	0.750	0.600
	Buffalo	0.125	0.125	0.571	0.571	0.429	0.375
	Central Michigan	0.625	0.889	0.857	0.714	1.000	0.824
	Eastern Michigan	0.375	0.125	0.429	0.286	0.000	0.236
	Kent State	0.000	0.556	0.143	0.286	0.571	0.311
	Miami (OH)	0.625	0.250	0.833	0.143	0.143	0.368
	Northern Illinois	0.750	0.625	0.167	0.625	0.625	0.554
	Ohio	0.375	0.778	0.429	0.429	0.857	0.581
	Temple			XXXX	XXXX	XXXX	XXXX
	Toledo	0.750	0.375	0.375	0.250	0.429	0.425
	Western Michigan	0.625	0.750	0.333	0.714	0.500	0.611
MWC	Air Force	0.375	0.375	0.750	0.625	0.625	0.550
	Brigham Young	0.625	1.000	1.000	0.750	0.875	0.850
	Colorado State	0.625	0.125	0.250	0.500	0.000	0.300
	New Mexico	0.500	0.500	0.625	0.250	0.125	0.400
	San Diego State	0.500	0.375	0.375	0.125	0.250	0.325
	TCU	1.000	0.750	0.500	0.875	1.000	0.825
	UNLV	0.125	0.125	0.125	0.250	0.375	0.200
	Utah	0.500	0.625	0.625	1.000	0.750	0.700
	Wyoming	0.250	0.625	0.250	0.125	0.500	0.350
Pac-10	Arizona	0.250	0.444	0.444	0.556	0.667	0.472
	Arizona State	0.500	0.500	0.778	0.444	0.222	0.489
	California	0.500	0.778	0.333	0.667	0.556	0.567
	Oregon	0.875	0.500	0.556	0.778	0.889	0.719
	Oregon State	0.375	0.667	0.667	0.778	0.667	0.631
	Stanford	0.500	0.111	0.333	0.444	0.667	0.411
	UCLA	0.750	0.556	0.556	0.333	0.333	0.506
	USC	1.000	0.778	0.778	0.889	0.556	0.800
	Washington	0.125	0.333	0.222	0.000	0.444	0.225
	Washington State	0.125	0.444	0.333	0.111	0.000	0.203

Table A.7 - Winning Percentage by Team (cont.)

Conference	Institution	2005	2006	2007	2008	2009	**AVG WPCT**
SEC	Alabama	0.750	0.250	0.500	1.000	1.000	0.700
	Arkansas	0.250	0.875	0.500	0.250	0.375	0.450
	Auburn	0.875	0.750	0.625	0.250	0.375	0.575
	Florida	0.625	0.875	0.625	0.875	1.000	0.800
	Georgia	0.750	0.500	0.750	0.750	0.500	0.650
	Kentucky	0.250	0.500	0.375	0.250	0.375	0.350
	LSU	0.875	0.750	0.750	0.375	0.625	0.675
	Mississippi	0.125	0.250	0.000	0.625	0.500	0.300
	Mississippi State	0.125	0.125	0.500	0.250	0.375	0.275
	South Carolina	0.625	0.375	0.375	0.500	0.375	0.450
	Tennessee	0.375	0.625	0.750	0.375	0.500	0.525
	Vanderbilt	0.375	0.125	0.250	0.500	0.000	0.250
Sun Belt	Arkansas State	0.714	0.571	0.429	0.500	0.286	0.518
	Florida Atlantic	0.286	0.571	0.857	0.667	0.571	0.601
	Florida International	0.429	0.000	0.143	0.429	0.286	0.275
	Louisiana-Lafayette	0.714	0.429	0.429	0.714	0.429	0.557
	Louisiana-Monroe	0.714	0.429	0.571	0.429	0.571	0.554
	Middle Tennessee	0.429	0.857	0.571	0.429	0.857	0.632
	North Texas	0.286	0.286	0.143	0.000	0.000	0.168
	Troy	0.429	0.857	0.857	0.857	1.000	0.800
	Western Kentucky					XXXX	XXXX
WAC	Boise State	0.875	1.000	0.875	1.000	1.000	0.950
	Fresno State	0.750	0.444	0.750	0.500	0.750	0.639
	Hawaii	0.500	0.875	1.000	0.625	0.375	0.675
	Idaho	0.250	0.375	0.000	0.125	0.500	0.250
	Louisiana Tech	0.750	0.125	0.500	0.625	0.375	0.475
	Nevada	0.875	0.625	0.500	0.625	0.875	0.700
	New Mexico State	0.000	0.250	0.125	0.125	0.125	0.125
	San Jose State	0.250	0.625	0.500	0.500	0.125	0.400
	Utah State	0.250	0.125	0.250	0.375	0.375	0.275

Appendix B - Calculations

Table B.1 - Standard Deviation Calculations

Conference	$\sum_{i=1}^{N}\sum_{t=1}^{T}(WPCT_{i,t}-0.500)^2$	*N*	*T*	*G*	σ_{Actual}	$\sigma_{Idealized}$	**Ratio**
ACC	2.6887	12	5	8	0.2117	0.1768	1.1975
Big XII	3.6946	12	5	8	0.2481	0.1768	1.4037
Big East	2.6122	8	5	7	0.2556	0.1890	1.3522
Big Ten	3.7500	11	5	8	0.2611	0.1768	1.4771
CUSA	3.6009	12	5	8	0.2450	0.1768	1.3858
MAC	3.5689	12	5	8	0.2439	0.1768	1.3796
MWC	3.5938	9	5	8	0.2826	0.1768	1.5986
Pac-10	2.9051	10	5	9	0.2410	0.1667	1.4463
SEC	3.8750	12	5	8	0.2541	0.1768	1.4376
Sun Belt	2.5482	8	5	7	0.2524	0.1890	1.3356
WAC	3.9093	9	5	8	0.2947	0.1768	1.6673

Table B.2 - Range in Winning Percentage by Conference

Conference	2005	2006	2007	2008	2009	**Average**
ACC	0.8750	0.7778	0.8750	0.5000	0.7500	0.7556
Big XII	0.8750	0.7639	0.8750	0.8750	0.8750	0.8528
Big East	1.0000	0.7143	0.5714	0.7143	0.8571	0.7714
Big Ten	0.6250	0.8750	0.8750	0.6250	0.5000	0.7000
CUSA	0.7500	0.7639	0.8750	0.8750	0.7500	0.8028
MAC	0.7500	0.7639	0.7143	0.8571	1.0000	0.8171
MWC	0.8750	0.8750	0.8750	0.8750	1.0000	0.9000
Pac-10	0.8750	0.6667	0.5556	0.8889	0.8889	0.7750
SEC	0.7500	0.7500	0.7500	0.7500	1.0000	0.8000
Sun Belt	0.4286	0.8571	0.7143	0.8571	1.0000	0.7714
WAC	0.8750	0.8750	1.0000	0.8750	0.8750	0.9000

Table B.3 - Interquartile Range of Winning Percentage by Conference

Conference	2005	2006	2007	2008	2009	**Average**
ACC	0.2500	0.3125	0.2813	0.1250	0.3125	0.2563
Big XII	0.3125	0.2604	0.3125	0.4375	0.3125	0.3271
Big East	0.3214	0.4643	0.1786	0.4643	0.3571	0.3571
Big Ten	0.3125	0.5000	0.3125	0.3750	0.3750	0.3750
CUSA	0.2500	0.2917	0.4063	0.3750	0.4063	0.3458
MAC	0.2500	0.3125	0.3497	0.3616	0.3705	0.3289
MWC	0.2500	0.2500	0.3750	0.5000	0.5000	0.3750
Pac-10	0.4063	0.1944	0.3056	0.3889	0.3056	0.3201
SEC	0.5000	0.5000	0.2813	0.4063	0.1563	0.3688
Sun Belt	0.3214	0.2500	0.2857	0.2500	0.3571	0.2929
WAC	0.5000	0.3750	0.5000	0.2500	0.3750	0.4000

Table B.4 - Competitive Balance Ratio Calculations

Conference	$\sum_{t=1}^{T} \sigma_{T,i}$	N	$\overline{\sigma_T}$	$\sum_{t=1}^{T} \sigma_{N,t}$	T	$\overline{\sigma_N}$	**CBR**
ACC	1.4600	12	0.1217	1.5043	5	0.3009	0.4044
Big XII	1.8696	12	0.1558	1.8452	5	0.3690	0.4222
Big East	1.3101	8	0.1638	1.5189	5	0.3038	0.5391
Big Ten	1.8629	11	0.1694	1.8567	5	0.3713	0.4561
CUSA	1.9716	12	0.1643	1.8130	5	0.3626	0.4531
MAC	2.7499	12	0.1841	1.9729	5	0.3649	0.5045
MWC	1.4792	9	0.1644	1.8334	5	0.3667	0.4482
Pac-10	1.5697	10	0.1570	1.6227	5	0.3245	0.4837
SEC	2.0910	12	0.1742	1.8875	5	0.3775	0.4616
Sun Belt	1.2193	8	0.1570	1.6203	5	0.2962	0.5301
WAC	1.3284	9	0.1476	1.8996	5	0.3799	0.3885

Table B.5 - Herfindahl-Hirschman Index Calculation

Conference	2005 Champion(s)	2006 Champion(s)	2007 Champion(s)	2008 Champion(s)	2009 Champion(s)	**HHI**
ACC	Florida State	Wake Forest	Virginia Tech	Virginia Tech	Georgia Tech	0.28
Big 12	Texas	Oklahoma	Oklahoma	Oklahoma	Texas	0.52
Big East	West Virginia	Louisville	West Virginia Conneticut	Cincinnati	Cincinnati	0.3
Big Ten	Penn State Ohio State	Ohio State	Ohio State	Penn State Ohio State	Ohio State	0.68
CUSA	Tulsa	Houston	Central Florida	East Carolina	East Carolina	0.28
MAC	Akron	Central Michigan	Central Michigan	Buffalo	Central Michigan	0.44
MWC	TCU	Brigham Young	Brigham Young	Utah	Texas Christian	0.36
Pac-10	Southern California	Southern California California	Southern California Arizona State	Southern California	Oregon	0.42
SEC	Georgia	Florida	Louisiana State	Florida	Alabama	0.28
Sun Belt	Arkansas State Louisiana-Lafayette Louisiana-Monroe	Troy Middle Tennessee	Florida Atlantic Troy	Troy	Troy	0.3931
WAC	Boise State Nevada	Boise State	Hawaii	Boise State	Boise State	0.54