

Exhibit A

UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA
OAKLAND DIVISION

**In re NCAA Student-Athlete Name and Likeness
Licensing Antitrust Litigation**

Case No. 09-cv-1967-CW

DECLARATION OF DANIEL L. RUBINFELD

June 3, 2014

1. I am the Robert L. Bridges Professor of Law and Professor of Economics Emeritus at the University of California, Berkeley and Professor of Law at New York University. This declaration contains additional evidence supporting my opinions on competitive balance, previously expressed in the Rubinfeld Merits Report and the Rubinfeld Merits Rebuttal Report.¹
2. As I explained in my two prior reports, competitive balance is an important driver of consumer demand for sporting contests.² I pointed out that the NCAA has achieved a reasonable level of competitive balance, as demonstrated by the popularity of D-I men's basketball and FBS football and in comparison with professional leagues.³
3. There are a variety of measures of competitive balance used in the sports economics literature, including measures of game or match uncertainty.⁴ One category of game uncertainty measures involves the dispersion of winning percentages, a commonly-used variant of which is the ratio of the standard deviation of winning percentages to the standard deviation of outcomes resulting from a hypothetically balanced league (hereinafter the "standard deviation ratio" or "SDR").⁵ The SDR captures the extent to which teams in a league differ in their success in winning games, where the measure of competitive balance is lower the more similar the winning percentages of the teams.⁶ If the value of the SDR is equal to one, then actual balance is equal to the hypothetically balanced league, and if the SDR exceeds one, the actual balance is less

¹ Expert Report of Daniel L. Rubinfeld Regarding Merits, September 25, 2013 ("Rubinfeld Merits Report"), Section VII; Expert Rebuttal Report of Daniel L. Rubinfeld Regarding Merits, November 5, 2013 ("Rubinfeld Merits Rebuttal Report"), Section VI.B.

² Rubinfeld Merits Report, ¶ 88; Rubinfeld Merits Rebuttal Report, §VI.B.

³ Rubinfeld Merits Report, ¶ 89; Rubinfeld Merits Rebuttal Report, ¶ 235.

⁴ See, for example, Fort, Rodney, "Competitive Balance in North American Professional Sports," in *Handbook of Sports Economics Research*, John Fizel, ed., M.E. Sharpe, Armonk, NY, 2006 ("Fort (2006)"); Szymanski, Stefan, "The Economic Design of Sporting Contests," *Journal of Economic Literature*, Vol. XLI (December 2003) ("Szymanski (2003)").

⁵ See for example: Quirk, James and Rodney D. Fort, *Pay Dirt: The Business of Professional Sports*, Princeton University Press, Princeton, NJ (1992) ("Quirk and Fort (1992)"), Chapter 7; Fort (2006); Szymanski (2003); Baird, Katie, "Dominance in College Football and the Role of Scholarship Restrictions," *Journal of Sport Management* Vol. 18, No. 3 (2004), pp. 217-35 ("Baird (2004)").

⁶ Dividing by the hypothetically balanced league standard deviation provides a normalization which facilitates cross-league and/or cross-season comparisons. See Quirk and Fort (1992), p. 245. Formally, the measure is calculated as $SDR = \{\sqrt{\sum[(w_i/G) - 0.5]^2/T}\}/\{0.5/\sqrt{G}\}$, where w_i/G is team i 's win percentage, T is the number of teams, and G is the number of games played by each team.

than the hypothetically balanced league.⁷

4. I have calculated the SDR for the two NCAA sports at issue, FBS football and D-I men's basketball and I have done similar calculations for the NFL and the NBA for the years 2009-10 to 2013-14.⁸ The results are summarized in Exhibit 1. For FBS football and D-I men's basketball, I have calculated SDR in two ways. First, to be consistent with the literature,⁹ I calculated the SDR separately for each conference, and then averaged across conferences. The results are shown in the first and fourth rows of the exhibit. Second, I calculated the SDR for the all of FBS football and all of D-I men's basketball to account for cross-conference competition. The results are shown in the second and fifth rows. It is clear from the exhibit that FBS football balance measures are generally comparable to those in the NFL, while D-I men's basketball is always closer to hypothetical balance than the NBA.¹⁰ This supports my previous conclusion that the NCAA has achieved a reasonable level of competitive balance in D-I men's basketball and FBS football, as compared to professional basketball and football.

Relationship between Team Financial Resources and Competitive Performance

5. As I explained in the Rubinfeld Merits Rebuttal Report, there are lower-revenue programs from non-major conferences which have been successful, that would likely be particularly adversely affected in Plaintiffs' but for world. I provided examples including Gonzaga basketball.¹¹

⁷ The standard deviation for the perfectly-balanced league is calculated by assuming a binomially distributed random variable with a probability of success of 0.5, which can be shown to equal $0.5/(G^{0.5})$ where G is the number of games each team plays. In other words, perfect balance assumes that the probability of a win is 50% for every team in every game. Note that this is an *ex ante* concept. It is possible, although highly unlikely, that all teams would have 50% win record *ex post*, so that the numerator of the ratio, and thus the SDR will equal zero.

⁸ The raw data for my analysis is the annual win-loss records for each team, available at "College Football," available at <<http://www.sports-reference.com/cfb/conferences/>>; "NFL Standings," available at <<http://espn.go.com/nfl/standings/>>; "College Basketball", available at <<http://www.sports-reference.com/cbb/conferences/>>; "NBA Standings," available at <<http://espn.go.com/nba/standings/>>.

⁹ Baird (2004), p. 224.

¹⁰ For the NCAA Conference Average, I calculated the SDR by conference based on the teams' conference records. For the calculations across all FBS Football and D-I men's basketball, I calculated the SDR based on team's overall record. For the NFL and NBA I calculated the SDR across the entire league. These results are in line with measures for these leagues found in the literature: Baird (2004); Quirk and Fort (1992); and Fort (2006).

¹¹ Rubinfeld Merits Rebuttal Report, ¶¶ 252 and 256.

6. To demonstrate this more comprehensively, I have collected “Rating Percentage Index” (“RPI”) data for men’s basketball. The RPI is a ranking of team performance, based on win percentage and strength of schedule, which is used by the NCAA to aid in the selection of teams to participate in the men’s basketball tournament.¹² I matched the RPI team rankings to total team revenues and expenses reported in the Equity in Athletics Disclosure Act (“EADA”) school financials data for the years 2006-07 through 2011-12.¹³ I then calculated the school ranking by revenue and by expenditures, and correlation coefficients that determine the extent to which team performance (as measured by the RPI) is in fact aligned with the ranking of team financial resources. The correlation coefficients are shown in Exhibit 2. The Exhibit shows that the correlations are positive, but they are significantly less than one.
7. Exhibit 3 shows a plot of the RPI rank against school total revenue rank for 2012, and Exhibit 4 shows a plot of the RPI rank against total school expenditure ranks. The exhibits show that school financial resources and spending do not perfectly determine team quality rank: there are a large number of schools whose team quality exceeds their relative financial resources rank; and there are also a large number of schools whose resources have failed to produce high performance teams.
8. I have also undertaken a similar type of analysis for FBS football. I collected data of 2011-12 “Colley Rankings” for FBS football.¹⁴ I then matched these rankings with school EADA reported revenue and expenditures. Exhibits 5 and 6 show plots of the 2011-12 Colley ranks against football revenue and expenditure ranks. The correlations are positive, but significantly less than 1: the correlation coefficient

¹² See: “What is the RPI?” RPIratings.com, available at <<http://www.rpiratings.com/WhatisRPI.php>>, accessed May 19, 2014. The RPI data was collected from “2012 NCAA Men’s Basketball RPI,” NCAA.org, available at <http://web1.ncaa.org/app_data/weeklyrpi/2012MBBrpi1.html>, accessed May 9, 2014.

¹³ The EADA data was provided in the Rascher Class Declaration backup materials. They are collected from each school that participates in the federal student financial assistance program. See: “Equity in Athletics Disclosure Act,” U.S. Department of Education, available at <<http://www2.ed.gov/inaid/prof/resources/athletics/eada.html>>, accessed May 16, 2014.

¹⁴ The Bowl Championship Series (BCS) uses the Colley Rankings as one of the components of its computer ranking (“BCS computer rankings,” BCSFootball.org, available at <<http://www.bcsfootball.org/news/story?id=4765872>>, accessed June 2, 2014). Colley rankings for 2011/12 are available at “ColleyMatrix,” Archive.org, <<http://web.archive.org/web/20130622061106/http://www.colleyrankings.com/foot2011/rankings/rank16.html>>, accessed June 2, 2014.

between the Colley rank and the revenue rank is 0.56, and the correlation coefficient between the Colley rank and the expenditure rank is 0.54.

9. In addition, I have looked at the relationship between both RPI and Colley ranks and Professor Rascher's estimated per-player broadcast compensation for 2009-10.¹⁵ Exhibit 7 shows a plot of Professor Rascher's but-for compensation per player in dollars for men's D-I basketball against basketball RPI's, and Exhibit 8 shows a plot of the rank of Professor Rascher's but-for compensation against RPI. Exhibits 9 and 10 show analogous plots for FBS football. It is clear from these exhibits that there are many schools that were competitively strong that year, but which have fewer resources and therefore would not offer student-athletes compensation as generous as schools with greater resources. These schools would be further disadvantaged in plaintiffs' but-for world.

But-For Compensation Differentials

10. As I explained in the Rubinfeld Merits Report and Rubinfeld Merits Rebuttal Report, in Plaintiffs' but-for world, where schools would be free to pay student-athletes, these financial offers would be an additional, potent recruiting tool that high-revenue schools could use to attract and retain the best student-athletes. The ability to pay players would clearly change the recruiting landscape even more in the favor of these schools.¹⁶ In those reports, I provided numerous examples of large compensation differentials between schools competing for the same recruits.¹⁷
11. To demonstrate this more comprehensively, I matched rivals.com recruiting data as compiled by Professor Noll to Professor Rascher's estimated per-player broadcast compensation, by school and year.¹⁸ For each recruit, I compared the dollar compensation figure corresponding to the school to which the recruit committed to the maximum compensation amount among the set of schools from which the recruit received offers. Exhibits 11 through 14 show that a substantial number of student-

¹⁵ Backup to Exhibits 14 and 15 of Expert Report of Daniel A. Rascher, September 25, 2013 ("Rascher Merits Report"). 2009-10 is the most recent year in which Professor Rascher calculated damages in his reports.

¹⁶ Rubinfeld Merits Report, ¶¶ 97-102, and Rubinfeld Merits Rebuttal Report, ¶ 252.

¹⁷ Rubinfeld Merits Rebuttal Report, ¶ 256.

¹⁸ These data overlap for the 2006-07 – 2009-10 school years.

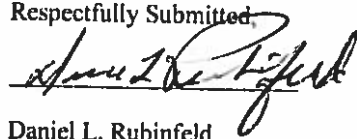
athletes would have forgone substantial compensation in Plaintiffs' but-for world if faced with the same set of school offers and if they had made the same commit choice as in the actual world. Exhibit 11 shows that about 45 percent of football recruits would have forgone at least \$10,000 over a four year college career, and Exhibit 12 shows that almost 60 percent of all men's basketball recruits would have forgone at least \$10,000.¹⁹ Exhibits 13 and 14 quantify how much money recruits would have forgone among those who would have had the opportunity to earn at least \$10,000 more over their four-year career. For example, for FBS football Exhibit 13 shows that 3,108 recruits would have earned at least \$10,000 more had they instead gone to the school that would pay the most among the offers they received. The exhibit also shows that 758 of these recruits could have been paid \$100,000 or more over 4 years above what they otherwise would have received. For basketball, Exhibit 14 shows that 1,361 recruits would have earned at least \$10,000 more, and of these, 187 would have made at least \$500,000 more over four years had they chosen the maximum payment school among their offers.

12. Even a relatively small differential in compensation offered could affect the choices made by student athletes. This is supported by the behavioral economics literature, which is motivated in part by evidence that many individuals exhibit "hyperbolic discounting," meaning that they place heavy emphasis on the near future.²⁰

¹⁹ This exhibit only counts recruits who received at least two offers as reported in Professor Noll's rivals.com data, and for whom there was a match (on both their offers and their commits) with Professor Rascher's damages estimates.

²⁰ Frederick, Shane, George Loewenstein, and Ted O'Donoghue, "Time Discounting and Time Preference: A Critical Review," *Journal of Economic Literature*, Vol. XL (June 2002), pp. 351-401.

Respectfully Submitted,

A handwritten signature in black ink, appearing to read "Daniel L. Rubinfeld", written over a horizontal line.

Daniel L. Rubinfeld
Oakland, California
June 3, 2014

Exhibit 1
Relative Standard Deviation of Winning Percentages
NCAA versus Professional Sports

	2009	2010	2011	2012	2013	2009-2013 Average
NCAA FBS Football (Conference Average)	1.528	1.432	1.477	1.536	1.600	1.515
NCAA FBS Football (Overall)	1.580	1.591	1.581	1.692	1.727	1.634
NFL	1.586	1.474	1.611	1.525	1.527	1.545
NCAA D-I Men's Basketball (Conference Average)	1.708	1.730	1.835	1.723	1.735	1.746
NCAA D-I Men's Basketball (Overall)	1.991	1.980	2.093	1.985	1.956	2.001
NBA	2.902	2.861	2.494	2.762	2.806	2.765

Note: Values closer to one indicate greater balance.

Sources: "College Football," available at <<http://www.sports-reference.com/cfb/conferences/>>; "NFL Standings," available at <<http://espn.go.com/nfl/standings>>; "College Basketball", available at <<http://www.sports-reference.com/cbb/conferences/>>; "NBA Standings," available at <<http://espn.go.com/nba/standings>>

Exhibit 2
Spearman Rank Correlations of RPI with EADA
Revenue/Expenditures

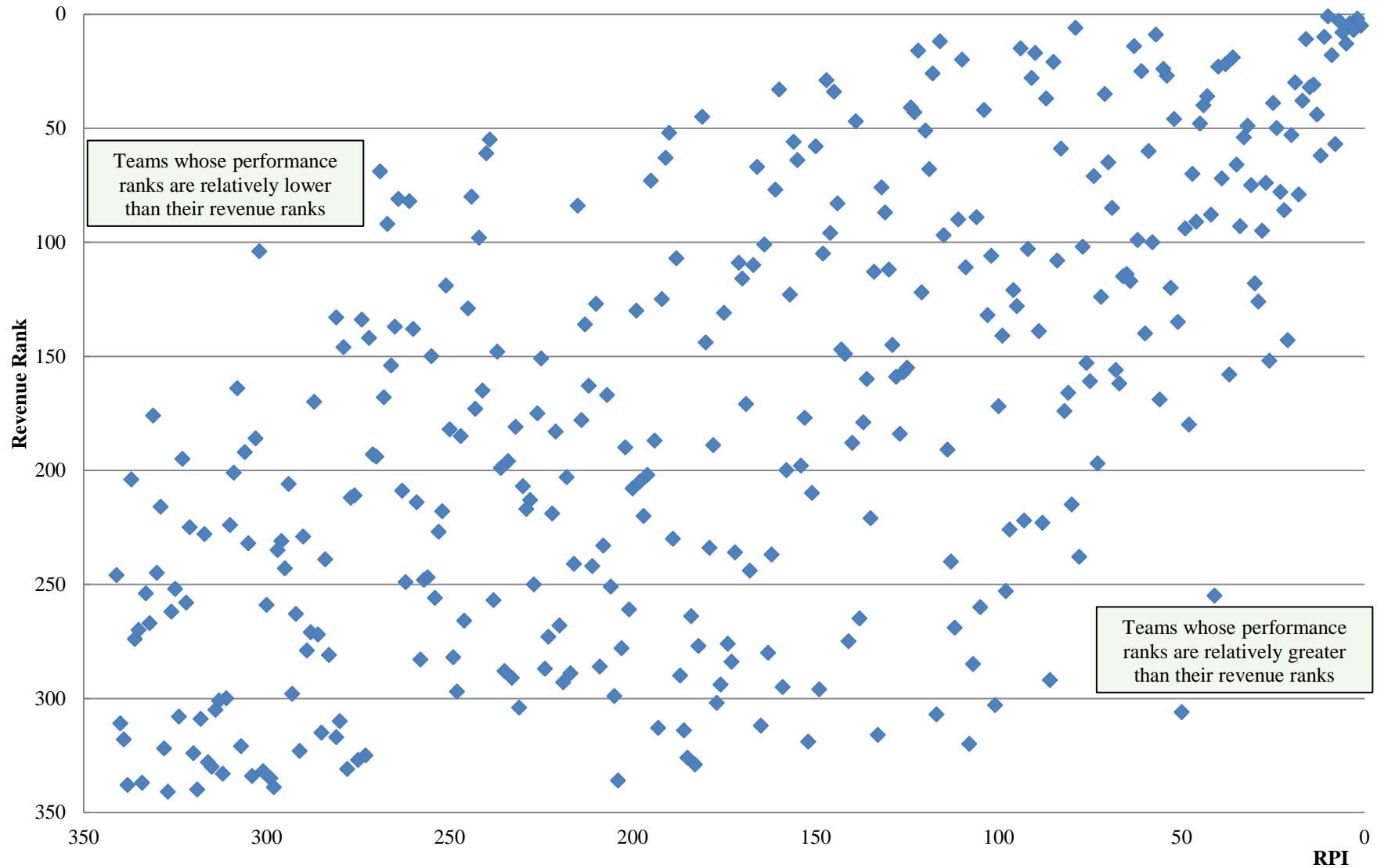
Year	Correlation with Total	Correlation with Total Expenditure	Observations (Teams)
2007	0.65	0.69	329
2008	0.60	0.61	334
2009	0.69	0.71	339
2010	0.69	0.68	343
2011	0.67	0.68	342
2012	0.65	0.64	341

Note: Correlations can take a value of -1 to 1. A value of zero means the series of data are uncorrelated, and a correlation of 1 means they are perfectly correlated (i.e. that the RPI ranks are always equal to the revenue or expenditure ranks).

Sources: EADA data provided in the Rascher Class Declaration backup materials. See: "Equity in Athletics Disclosure Act," U.S. Department of Education, available at <<http://www2.ed.gov/finaid/prof/resources/athletics/eada.html>>, accessed May 16, 2014; "2012 NCAA Men's Basketball RPI," NCAA.com, available at <http://web1.ncaa.org/app_data/weeklyrpi/2012MBBrpi1.html>.

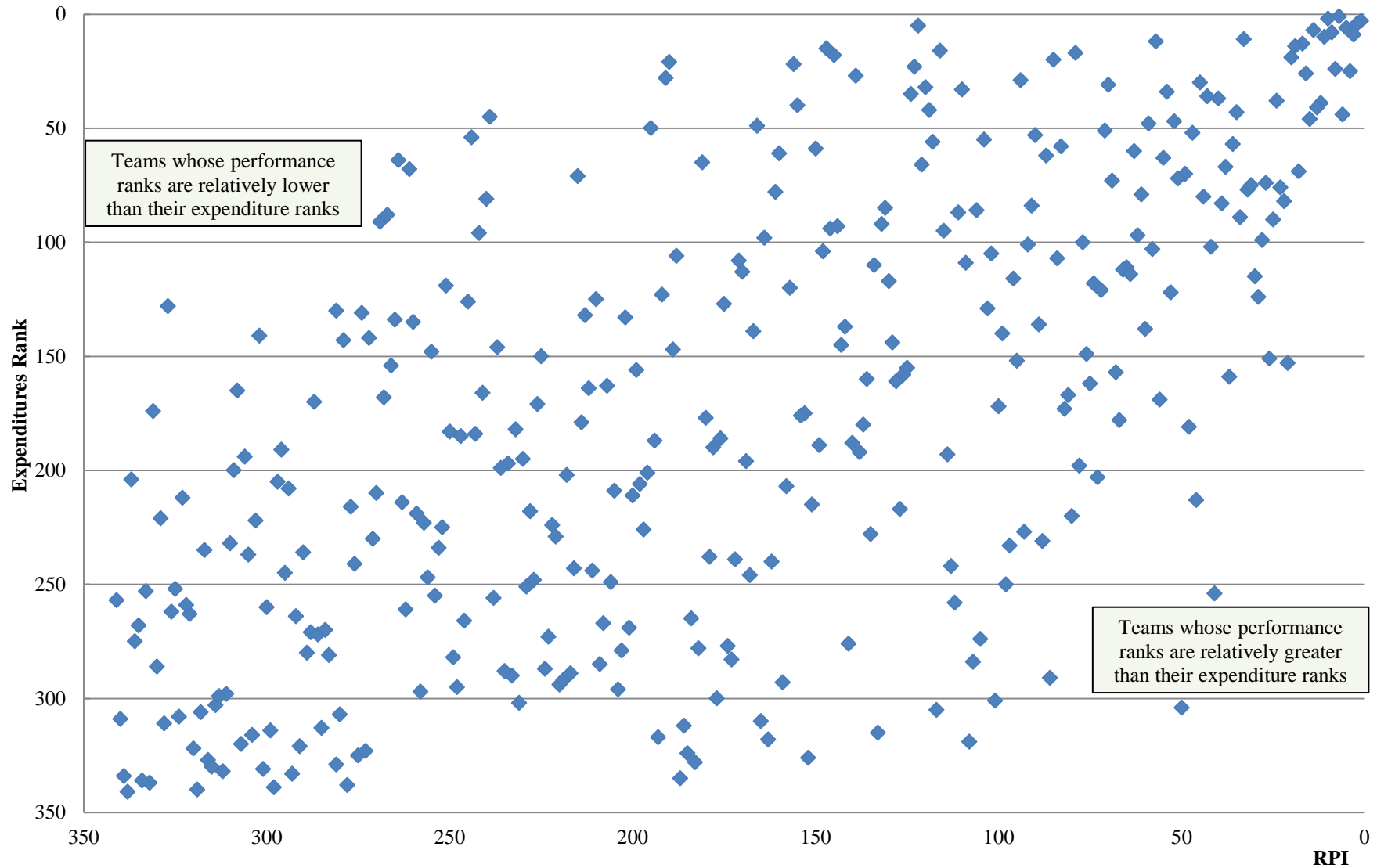
Exhibit 3

Total Men's Basketball Revenue Rank vs. RPI Rank, 2011-2012



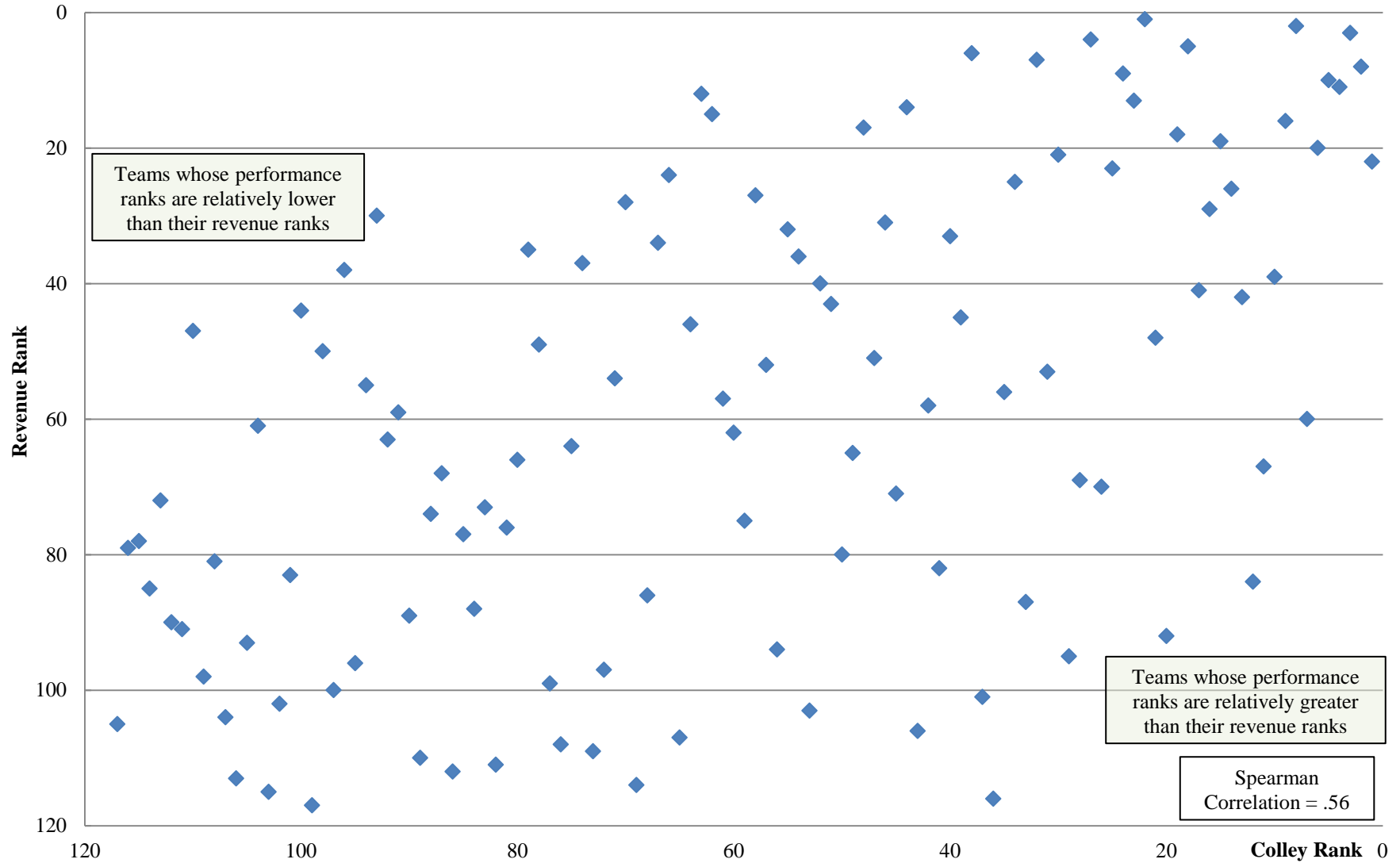
Notes: Rating Percentage Index (RPI) ranks teams in sequential order based on their record and their strength of schedule. The best ranking a team can receive is one.
Sources: 2011-2012 Public EADA data; "2012 NCAA Men's Basketball RPI," NCAA.com, available at <http://web1.ncaa.org/app_data/weeklyrpi/2012MBBrpi1.html>.

Exhibit 4 Total Men's Basketball Expenditures Rank vs. RPI Rank, 2011-2012



Notes: Rating Percentage Index (RPI) ranks teams in sequential order based on their record and their strength of schedule. The best ranking a team can receive is one.
Sources: 2011-2012 Public EADA data; "2012 NCAA Men's Basketball RPI," NCAA.com, available at <http://web1.ncaa.org/app_data/weeklyrpi/2012MBBrpi1.html>.

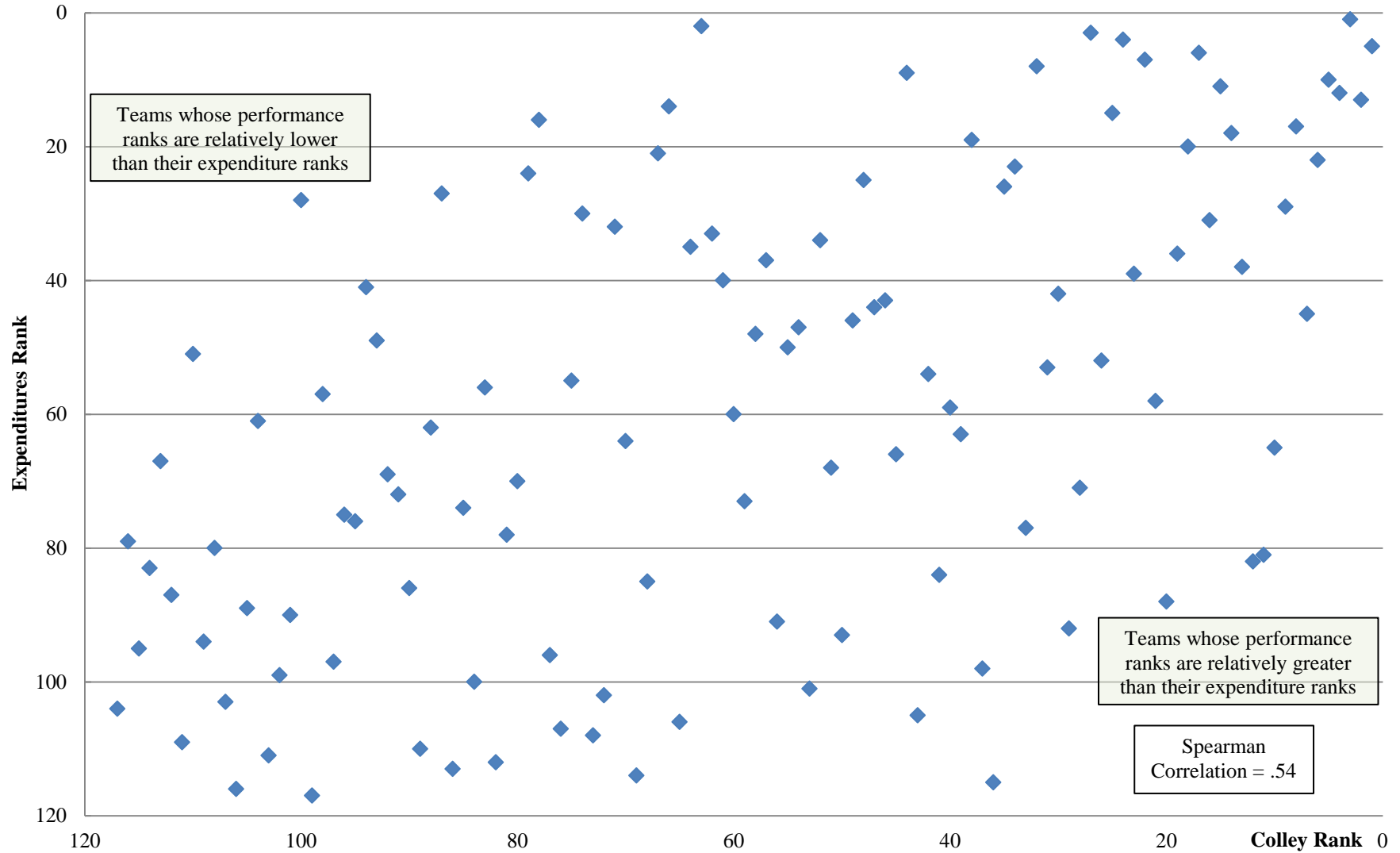
Exhibit 5 Total Football Revenue Rank vs. Colley Rank, 2011-2012



Notes: The Bowl Championship Series (BCS) uses the Colley Rankings as one of the components of its computer ranking. The best ranking a team can receive is one.

Sources: 2011-2012 Public EADA data; "Colley Matrix 2011 Rankings," available at <http://web.archive.org/web/20130622061106/http://www.colleyrankings.com/foot2011/rankings/rank16.html>.

Exhibit 6 Total Football Expenditures Rank vs. Colley Rank, 2011-2012

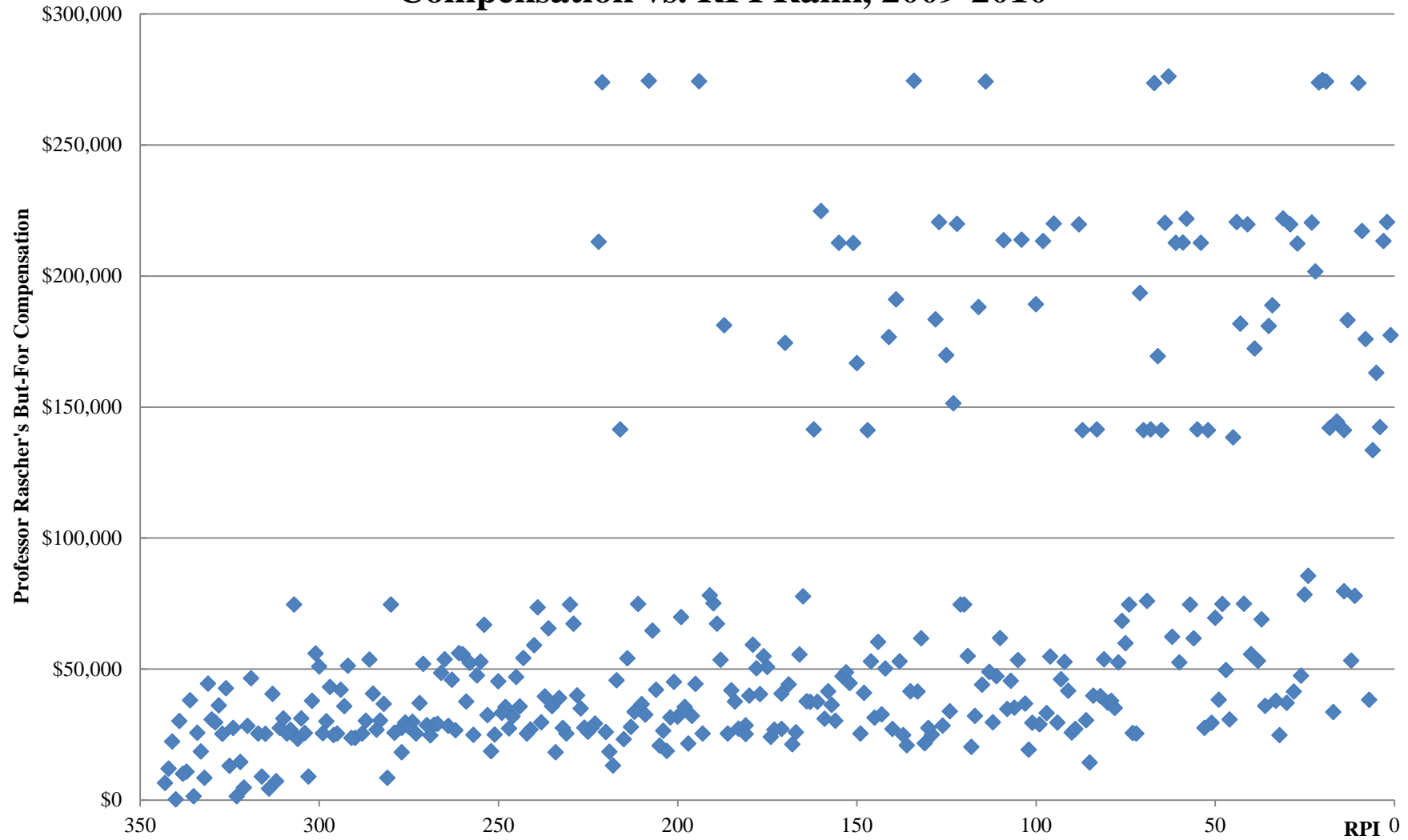


Notes: The Bowl Championship Series (BCS) uses the Colley Rankings as one of the components of its computer ranking. The best ranking a team can receive is one.

Sources: 2011-2012 Public EADA data; "Colley Matrix 2011 Rankings," available at <http://web.archive.org/web/20130622061106/http://www.colleyrankings.com/foot2011/rankings/rank16.html>.

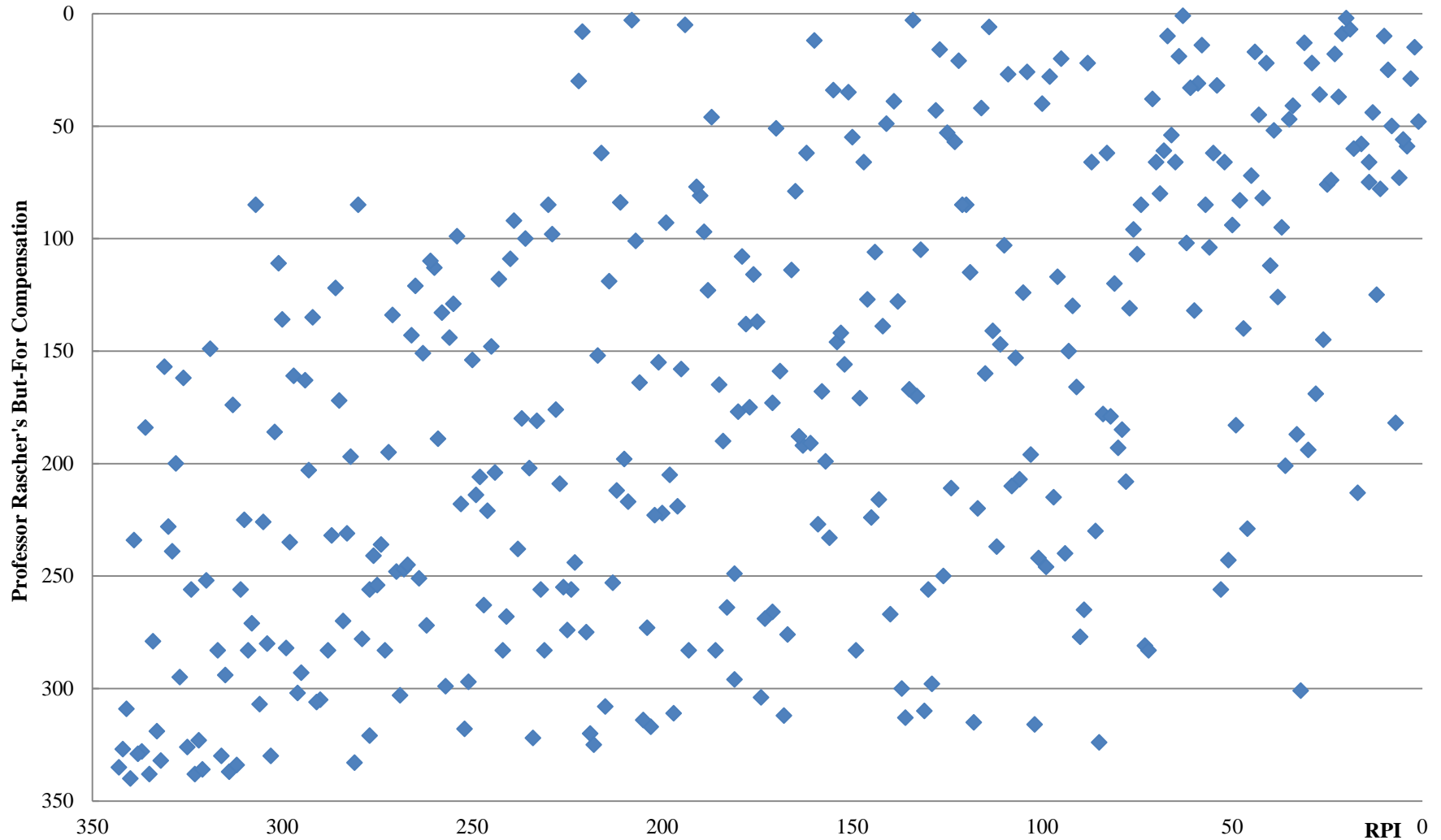
Exhibit 7

Professor Rascher's But-For D-I Men's Basketball Broadcast Compensation vs. RPI Rank, 2009-2010



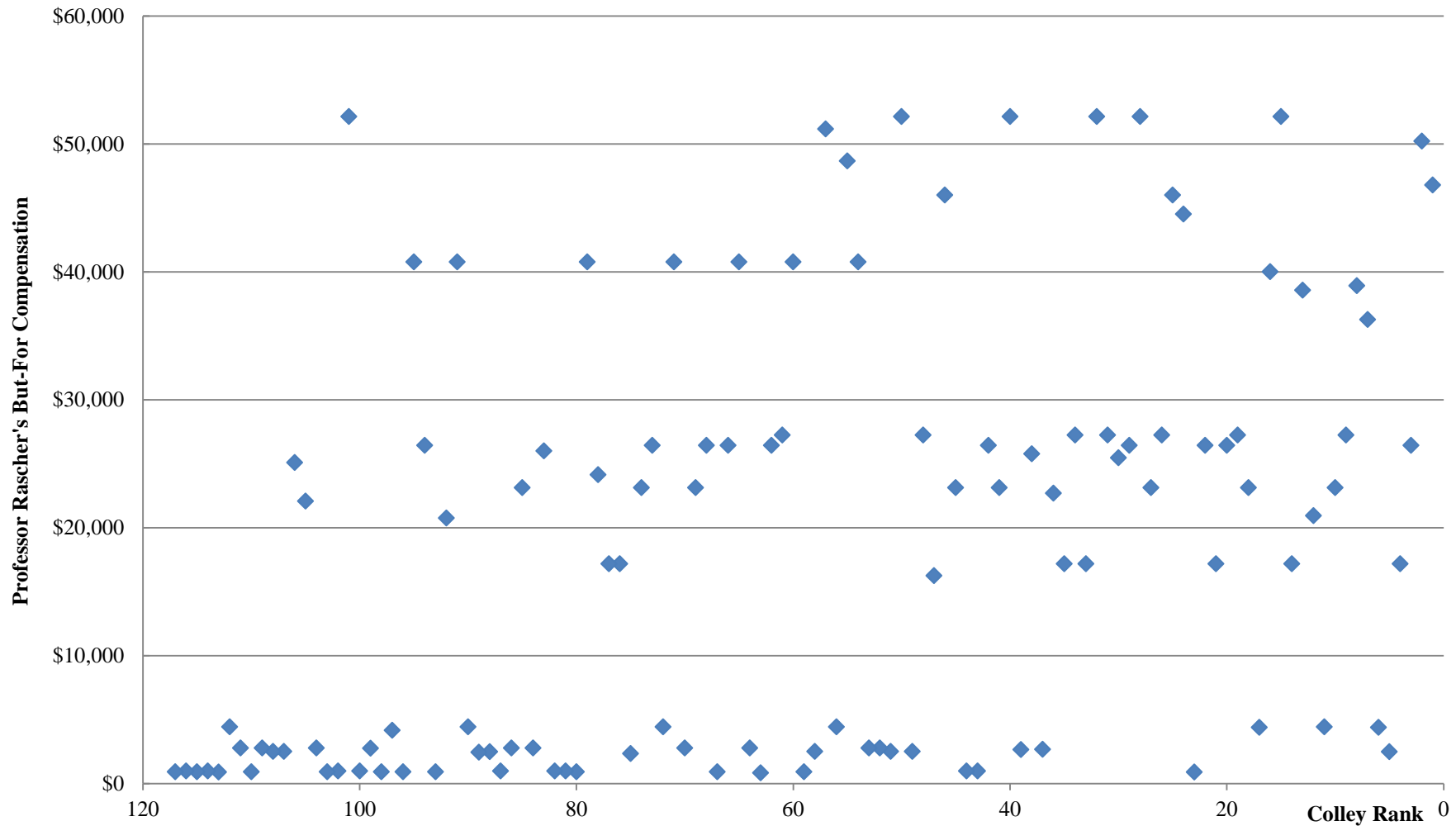
Notes: Rating Percentage Index (RPI) ranks teams in sequential order based on their record and their strength of schedule. The best ranking a team can receive is one.
Sources: 2009-2010 Public EADA data; "2010 NCAA Men's Basketball RPI," NCAA.com, available at <http://web1.ncaa.org/app_data/weeklyrpi/2010MBBrpi1.html>; Backup to Exhibits 14 and 15 in Rascher's Merits Report.

Exhibit 8 Professor Rascher's But-For D-I Men's Basketball Broadcast Compensation vs. RPI Rank, 2009-2010



Notes: Rating Percentage Index (RPI) ranks teams in sequential order based on their record and their strength of schedule. The best ranking a team can receive is one.
Sources: 2009-2010 Public EADA data; "2010 NCAA Men's Basketball RPI," NCAA.com, available at <http://web1.ncaa.org/app_data/weeklyrpi/2010MBBrpi1.html>; Backup to Exhibits 14 and 15 in Rascher's Merits Report.

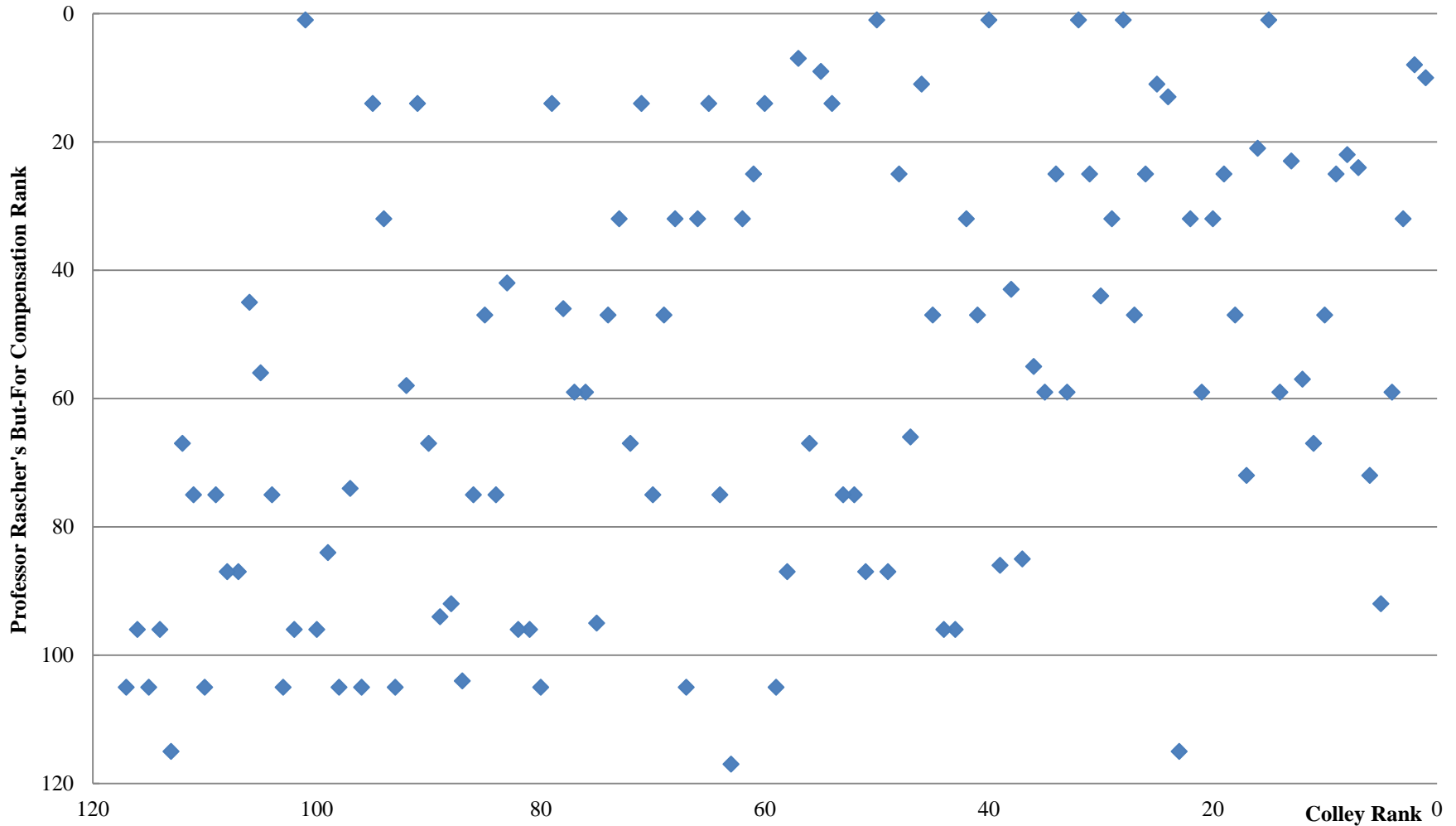
Exhibit 9 Professor Rascher's But-For FBS Football Broadcast Compensation vs. Colley Rank, 2009-2010



Notes: The Bowl Championship Series (BCS) uses the Colley Rankings as one of the components of its computer ranking. The best ranking a team can receive is one.
Sources: "Colley Matrix 2009 Rankings," available at <<http://web.archive.org/web/20111211074129/http://www.colleyrankings.com/foot2009/rank16.html>>; Backup to Exhibits 14 and 15 in Rascher's Merits Report.

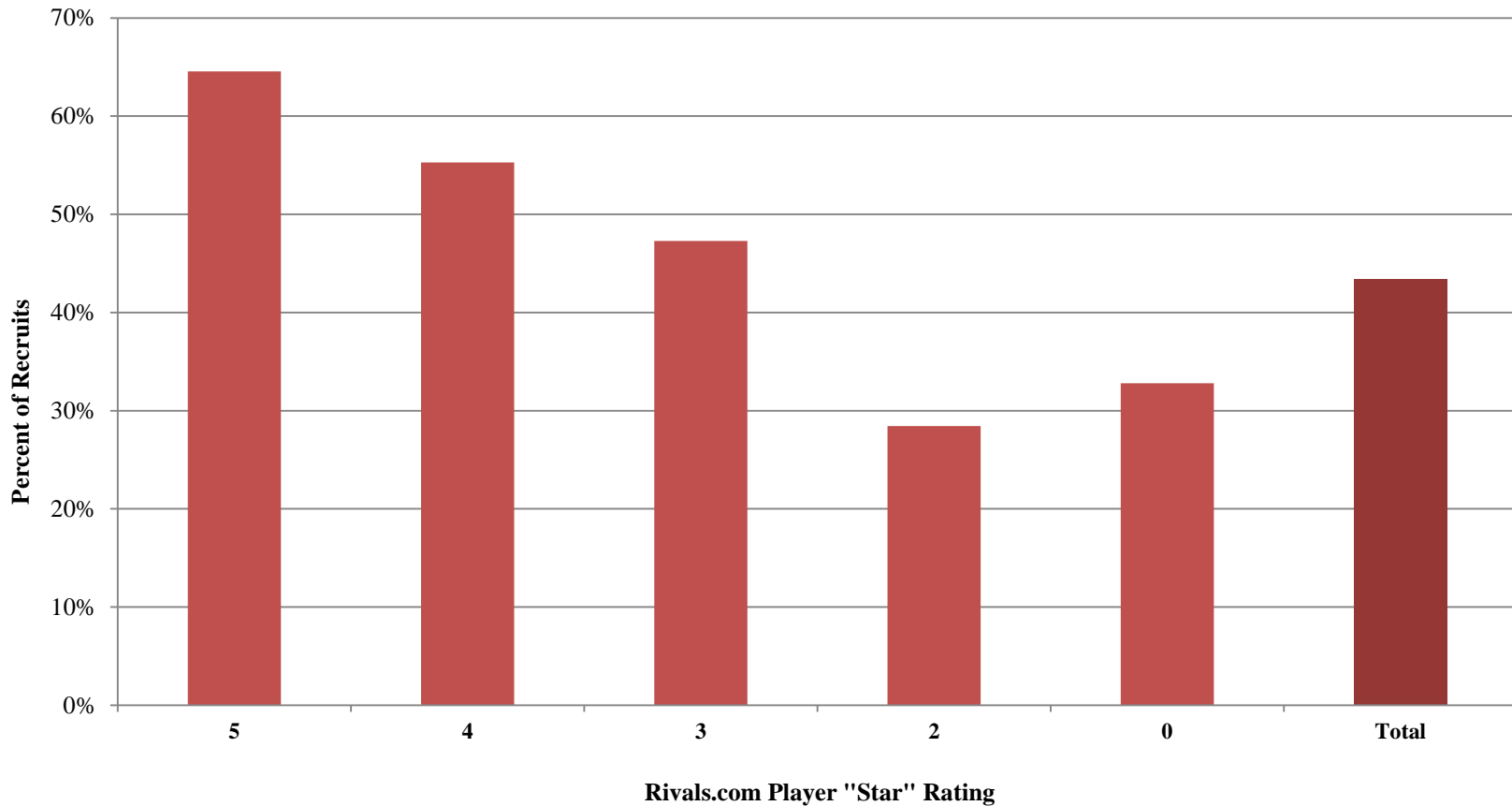
Exhibit 10

Professor Rascher's But-For FBS Football Broadcast Compensation Rank vs. Colley Rank, 2009-2010



Notes: The Bowl Championship Series (BCS) uses the Colley Rankings as one of the components of its computer ranking. The best ranking a team can receive is one.
Sources: "Colley Matrix 2009 Rankings," available at <<http://web.archive.org/web/20111211074129/http://www.colleyrankings.com/foot2009/rank16.html>>; Backup to Exhibits 14 and 15 in Rascher's Merits Report.

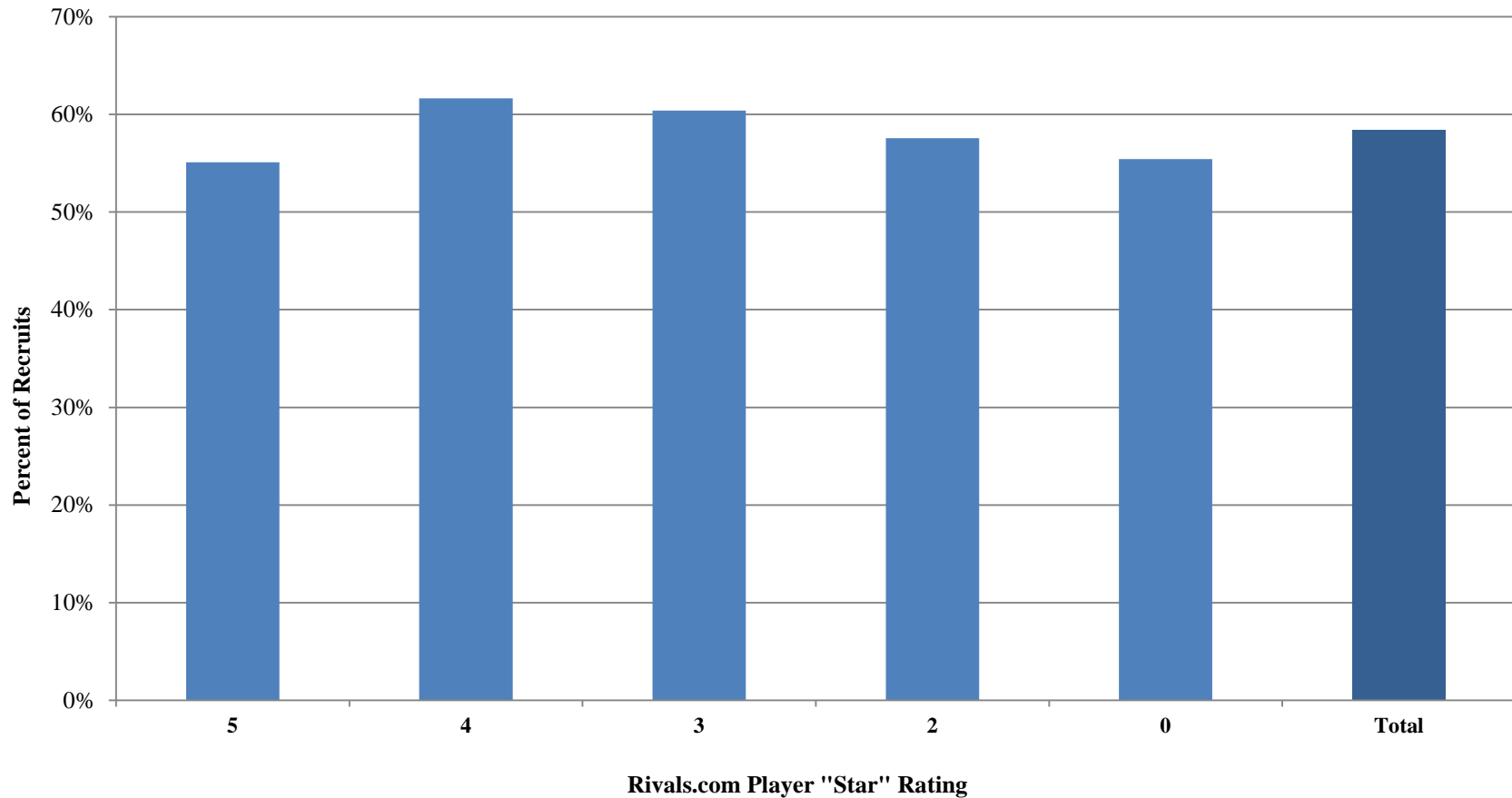
Exhibit 11 Percentage of Football Recruits Who Would Have Forgone at Least \$10,000



Note: The plotted distribution was calculated by matching Professor Rascher's per-player broadcast "damages" by school with Professor Noll's recruit data which indicate the recruit year (covering recruit years 2007-2010), where each student received offers, and the school to which they committed. Payments forgone for each student are the difference between the maximum but-for payment they might have received among all the schools from which they received an offer and the payment they would have received at the school they committed. The chart is limited to recruits that received more than one offer and includes compensation over four years.

Source: "Offers_and_commits_std" and "player_details" datasets from rivals.com backup to Noll Merits Report; Backup to Exhibits 14 and 15 in Rascher's Merits Report.

Exhibit 12 Percentage of Basketball Recruits Who Would Have Forgone at Least \$10,000

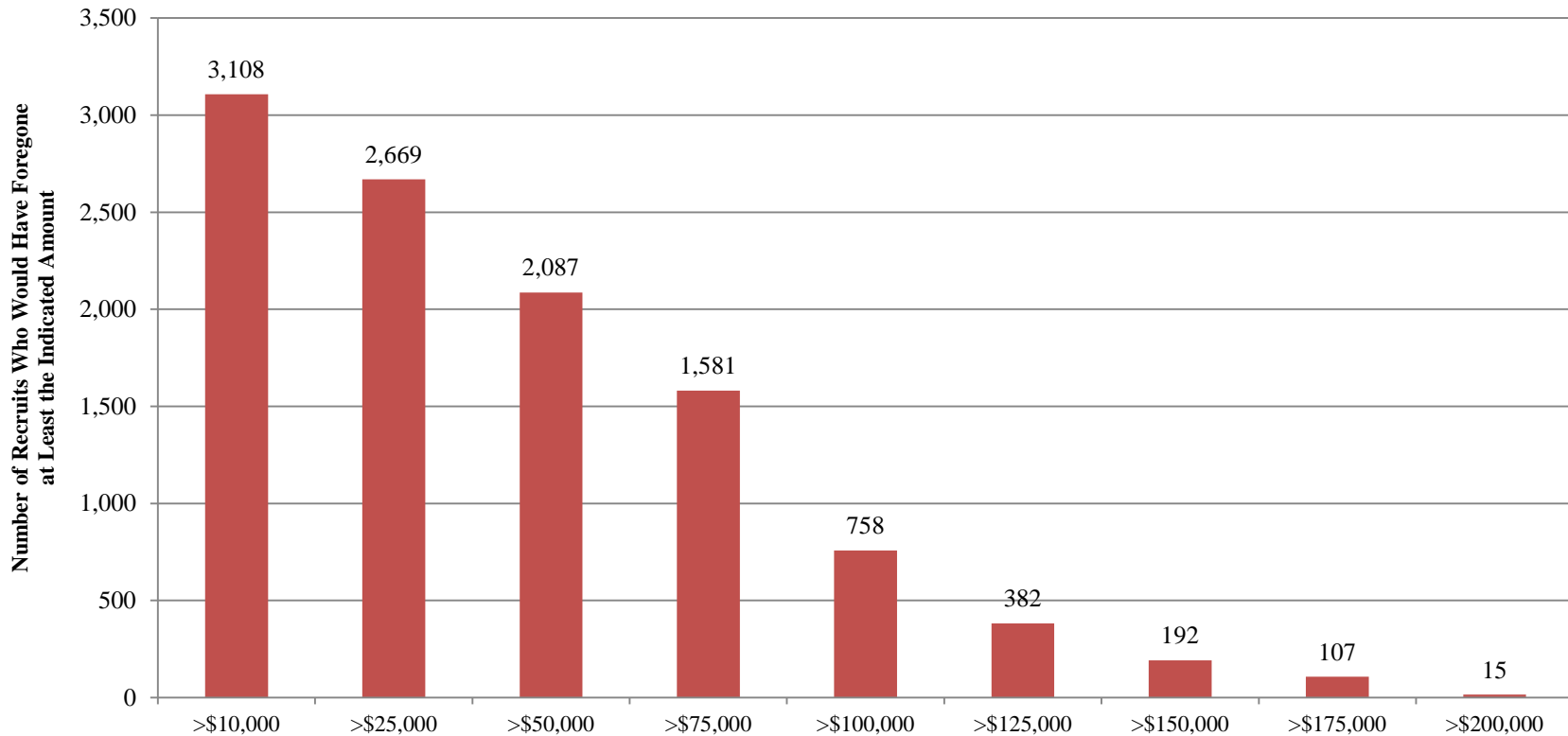


Note: The plotted distribution was calculated by matching Professor Rascher's per-player broadcast "damages" by school with Professor Noll's recruit data which indicate the recruit year (covering recruit years 2007-2010), where each student received offers, and the school to which they committed. Payments forgone for each student are the difference between the maximum but-for payment they might have received among all the schools from which they received an offer and the payment they would have received at the school they committed. The chart is limited to recruits that received more than one offer and includes compensation over four years.

Source: "Offers_and_commits_std" and "player_details" datasets from rivals.com backup to Noll Merits Report; Backup to Exhibits 14 and 15 in Rascher's Merits Report.

Exhibit 13

Cumulative Distribution of But-For Live Broadcast Payments Forgone By FBS Football Recruits Over A Four-Year Career



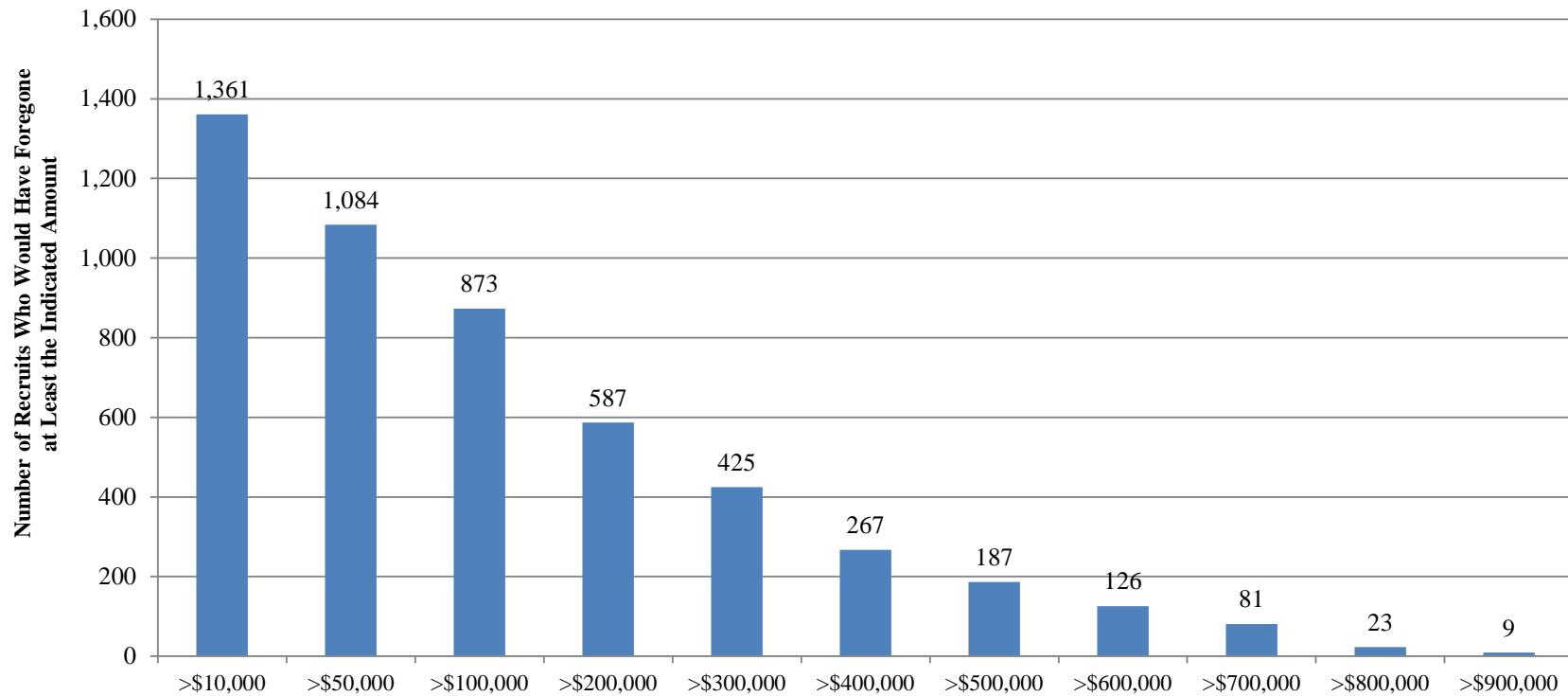
Amount Forgone: Difference Between But-for Maximum Offer Payment and Commit Payment

Note: The plotted distribution was calculated by matching Professor Rascher's per-player broadcast "damages" by school with Professor Noll's recruit data which indicate the recruit year, where each student received offers, as well as the school to which they committed. Out of a total of 7,154 football recruits identified in Professor Noll's rivals.com recruits dataset (which covers recruits from 2007-2010), for those "damaged" students who received 2 or more offers, 3,108 would have been able to earn an additional \$10,000 over a 4-year career if they had chosen a different school. Payment forgone for each student is calculated as the difference between the maximum but-for payment they would have received and the payment they would have received at the school to which they committed. The cumulative distribution of this difference is plotted for the cases in which the student would have been better off in terms of but-for payments had they committed to one of the other schools from which they received an offer. The difference calculated applies to Professor Rascher's estimated alleged "damages" for one year: the recruiting year and the corresponding year's "damages." This difference is multiplied by 4 to estimate a four-year total payment.

Source: "Offers_and_commits_std" and "player_details" datasets from rivals.com backup to Noll Merits Report; Backup to Exhibits 14 and 15 in Rascher's Merits Report.

Exhibit 14

Cumulative Distribution of But-For Live Broadcast Payments Forgone By Division I Men's Basketball Recruits Over a Four-Year Career



Amount Forgone: Difference Between But-for Maximum Offer Payment and Commit Payment

Note: The plotted distribution was calculated by matching Professor Rascher's per-player broadcast "damages" by school with Professor Noll's recruit data which indicate the recruit year, where each student received offers, as well as the school to which they committed. Out of a total of 2,332 basketball recruits identified in Professor Noll's rivals.com recruits dataset (which covers recruits from 2007-2010), for those "damaged" students who received 2 or more offers, 1,361 would have been able to earn an additional \$10,000 over a 4-year career if they had chosen a different school. Payment forgone for each student is calculated as the difference between the maximum but-for payment they would have received and the payment they would have received at the school to which they committed. The cumulative distribution of this difference is plotted for the cases in which the student would have been better off in terms of but-for payments had they committed to one of the other schools from which they received an offer. The difference calculated applies to Professor Rascher's estimated alleged "damages" for one year: the recruiting year and the corresponding year's "damages." This difference is multiplied by 4 to estimate a four-year total payment.

Source: "Offers_and_commits_std" and "player_details" datasets from rivals.com backup to Noll Merits Report; Backup to Exhibits 14 and 15 in Rascher's Merits Report.

List of New Materials Considered
Declaration of Daniel L. Rubinfeld, Ph.D., Regarding Competitive Balance
In re NCAA Student-Athlete Name & Likeness Licensing Litigation

<i>Bates Stamp/Title</i>		<i>Date</i>
<u>Academic Texts and Articles</u>		
	Frederick, Shane, George Lowenstein, and Ted O'Donoghue, "Time Discounting and Time Preference: A Critical Review," <i>Journal of Economic Literature</i> , Vol. XL, June 2001, pp. 350-401	
		<i>Last Accessed</i>
<u>News, Press and Websites</u>		
	"2012 NCAA Men's Basketball RPI," NCAA, 2012, available at http://web1.ncaa.org/app_data/weeklyrpi/2012MBBrpi1.html	3-Jun-14
	"Conference Index: College Basketball," <i>Sports-Reference.com</i> , 2014, available at http://www.sports-reference.com/cbb/conferences/	3-Jun-14
	"Conference Index: College Football," <i>Sports-Reference.com</i> , 2014, available at http://www.sports-reference.com/cfb/conferences/	3-Jun-14
	"Colley's Bias Free College Football Rankings," <i>Colley Rankings</i> , n.d., available at http://web.archive.org/web/20130622061106/http://www.colleyrankings.com/foot2011/rankings/rank16.html	3-Jun-14
	"NBA Standings: 2013-14," <i>ESPN</i> , 2014, available at http://espn.go.com/nba/standings	3-Jun-14
	"NFL Standings: 2013," <i>ESPN</i> , 2014, available at http://espn.go.com/nfl/standings	3-Jun-14
	"What Is RPI?," <i>Collegiate Basketball News</i> , 2014, available at http://www.rpiratings.com/WhatisRPI.php	3-Jun-14