

**Assessing the Effect of Formal and Informal Enforcement
on Progress Towards Title IX Compliance**

Sarah L. Stafford*

January 2003

Objective. This paper examines the factors that determine whether an intercollegiate athletic program is in compliance with Title IX, the statute requiring gender equity in education programs. *Methods.* I conduct a series of econometric regressions that examine the compliance status of Division I institutions as well as the progress that they have made toward compliance. The analysis considers the influence of formal and informal enforcement mechanisms such as complaints, lawsuits, and NCAA recertification. *Results.* Large institutions and institutions with a lower percentage of female undergraduates are more likely to be in compliance. Football lowers the probability of compliance, particularly for Division I-A teams. Additionally, southern and historically black institutions are less likely to be in compliance. *Conclusions.* The results of this analysis suggest that none of the current enforcement mechanisms have been successful in encouraging progress towards compliance and that some change either in enforcement or compliance standards is warranted.

* Direct all correspondence to Sarah L. Stafford, Department of Economics, College of William and Mary, Williamsburg, VA, 23187. Email: slstaf@wm.edu. Data requests for the purpose of replication should be directed to the same address. The author would like to thank Lee Sigelman and Paul Wahlbeck for providing data on 1995-1996 athletic participation, expenditures and enrollment.

Assessing the Effect of Formal and Informal Enforcement on Progress Towards Title IX Compliance

1. Introduction

Thirty years after the passage Title IX, the statute requiring gender equity in intercollegiate sports, the majority of colleges and universities are still not in compliance, that is they do not provide opportunities for participation in intercollegiate sports for male and female students in proportion to their respective undergraduate enrollments. Although non-compliance is pervasive, many institutions have made progress towards compliance. The purpose of this study is to assess the effectiveness of formal and informal enforcement mechanisms in increasing compliance.

Title IX is formally enforced by the Office for Civil Rights (OCR) of the Department of Education. When OCR receives a Title IX complaint, it conducts an investigation to determine if the alleged discrimination took place. If there are compliance concerns, OCR has several enforcement options ranging from a settlement agreement to a referral to the Department of Justice. Title IX can also be enforced through the court system. Private lawsuits, or the threat of them, are another potential method of promoting gender proportionality in athletic opportunities. Finally, the National Collegiate Athletic Association (NCAA) has the ability to provide compliance incentives for its member institutions. For example, in its second cycle of athletics certification for Division I institutions, the NCAA examines whether institutions have developed a plan for making and maintaining progress towards gender equity. This paper uses data on athletic participation and funding at Division I institutions from 1995 to 2001 to determine how much progress institutions have made toward achieving compliance. The analysis considers the

effect of formal and informal enforcement mechanisms such as complaints, lawsuits, and NCAA recertification in effecting progress towards compliance.

2. Background

Although no institution has ever had its funding revoked for Title IX noncompliance, the majority of institutions have not achieved "substantial proportionality" in athletic participation.¹ Substantial proportionality has never been explicitly defined by OCR, but in practice a school is considered to have achieved it when its athletic participation by gender is within five percentage points of the undergraduate student body's gender proportion.² Under this definition, for the 1995-1996 school year, only 29 of the 321 Division I intercollegiate programs achieved substantial proportionality.³ Even though the number of institutions meeting substantial proportionality rose to 79 by the 2001-2002 school year, this still represents only 25 percent of Division I institutions.⁴

¹ Under the 1988 Civil Rights Restoration Act, no institution violating a civil rights statute should receive any federal funding.

² No school has been found to be in violation of Title IX with a shortfall of 5 percent or less (Sigelman and Wahlbeck (1999)).

³ Division I is the top level of intercollegiate athletics and is defined by the number of intercollegiate teams, quality of competition, attendance, and financial aid. Calculations by author using data from the 1995-1996 NCAA survey, as collected by the *Chronicle of Higher Education* and supplemented by Sigelman and Wahlbeck (1999).

⁴ Calculations by author using data from the *Chronicle of Higher Education's* database of information filed under the Equity in Athletics Disclosure Act (<http://chronicle.com/stats/genderequity/>).

Substantial proportionality is only one way in which a school can demonstrate "effective accommodation" of the interests and abilities of its students. OCR's three-part test allows institutions to demonstrate effective accommodation by:

- 1) Providing opportunities for participation in intercollegiate sports by gender in approximate proportion to undergraduate enrollment (substantial proportionality);
- 2) Demonstrating a "history and continuing practice" of expanding opportunities for the underrepresented gender (continued expansion); or
- 3) Presenting proof that it is "fully and effectively" accommodating the athletic interests of the underrepresented gender (full accommodation).

Substantial proportionality is a "safe harbor" for institutions, that is, it can serve as proof that institutions are effectively accommodating the interests and abilities of students.⁵ However, it is not clear what institutions must do to demonstrate a history and continuing practice of expanding opportunities. To date, the courts have not found any school to have satisfied the continued expansion test. Moreover increasing female participation ratios by decreasing the number of athletic opportunities for males, a common practice, has explicitly been determined to not equal an expansion of opportunities for women.⁶ Also, no school has been able to provide satisfactory proof for the third part of the test, full accommodation.⁷ Thus, it appears that substantial proportionality is a necessary condition for Title IX compliance.⁸

⁵ According to the findings in *Cohen v. Brown University* 879 F. Supp. 185 (1995).

⁶ In *Cohen v. Brown University* 879 F. Supp. 185,200,214 (1992) the court found that eliminating men's teams does not amount to expanding the women's program.

⁷ The courts have interpreted "full accommodation" to mean that there is no unmet interest in the underrepresented gender, not that opportunities are in proportion to some measure of interest.

It is important to note that effective accommodation is not the only area of concern for intercollegiate athletics under Title IX. In its 1979 Policy Interpretation, the Office for Civil Rights of the Department of Health, Education and Welfare suggested that compliance in three areas was necessary to avoid a Title IX violation: meeting the interests and abilities of male and female students (effective accommodation), financial assistance (scholarships), and "other program areas" including equipment, practice time, etc.⁹ Although the other areas of compliance have not been emphasized by OCR, at least in theory substantial proportionality is not a sufficient condition for Title IX compliance.

Individuals who believe that a school is not in compliance with Title IX can make a formal complaint to OCR. In 2000, OCR received 21 complaints alleging discrimination in intercollegiate athletics.¹⁰ Complaints to OCR include lack of effective accommodation as well as inequities in financial assistance and support such as office space, locker rooms, coaching salaries, etc. After receiving a complaint, OCR conducts an investigation to determine if the alleged discrimination took place. If OCR determines that the complaint is valid, it can be resolved through a variety of means ranging from a settlement agreement to a referral to the

Shook (1996) provides an example that shows how such a situation could be discriminatory.

Additionally, there is the question of how interest can or should be measured, particularly given historical discrimination in athletic opportunities for women.

⁸ See Shook (1996) for a more detailed discussion.

⁹ 44 Federal Register 71413 (1979). These three areas were also outlined in OCR's 1990 *Title IX Investigator's Manual*.

¹⁰ www.ed.gov/PressReleases/03-2002/03202002.html.

Department of Justice for enforcement. In the past 30 years of Title IX regulation, over 300 complaints have been resolved through settlement agreements.¹¹

Title IX also can be enforced through the courts. In *Cannon v. University of Chicago*¹² the courts granted private individuals a right of action and in *Franklin v. Gwinnett County Public Schools*¹³ the court held that a plaintiff could recover monetary damages for intentional violations of Title IX. Finally, although it has no formal role in enforcement, the NCAA is in a position to encourage its members to comply with Title IX. The NCAA is a voluntary association that administers intercollegiate athletics for its more than 1,000 member institutions. In the past ten years, the NCAA has taken a more active role in promoting gender equity by creating a Gender Equity Task Force in 1992 and in 1994 adding a provision to its Principles for Conduct of Intercollegiate Athletics that member institutions should comply with Title IX regulation and avoid gender bias.¹⁴ The NCAA also requires each member institution to submit an annual report containing gender equity information. One potential opportunity for the NCAA to encourage progress toward gender equity is its certification program for Division I institutions. In fact, the NCAA includes gender equity as one of its basic themes for its second cycle of

¹¹ "Three-Pronged Test Makes True Compliance Vague," by Greg Garber, ESPN.com, Thursday June 6.

¹² 441 U.S. 677 (1979).

¹³ 503 U.S. 60 (1992).

¹⁴ This is in stark contrast to its initial opposition to Title IX. In 1976 the NCAA sought a permanent injunction against enforcement of Title IX. It was also a major supporter of the failed Tower amendment that sought to have men's football and basketball (revenue sports) excluded from Title IX.

certification.¹⁵ Certification requires that each school complete a year-long self-study of the institution's athletics program. After completing the self-study, a team of outside evaluators visits the department and, among other things, determines whether the institution has established a complete plan for making or maintaining progress in gender equity.

3. Related Literature

Gender equity in intercollegiate athletics has been the subject of numerous articles and editorials over the past several years. Most articles in the popular press focus on discussions of the theoretical intent of the law or provide anecdotal evidence about the consequences of Title IX. There also is a large legal literature on Title IX that focuses on the application of Title IX to college athletic programs over the past thirty years.¹⁶ However, there have only been a handful of empirical analyses of Title IX compliance.

Sigelman and Wahlbeck (1999) use data on the gender composition of Division I athletic programs and analyze three possible approaches to compliance at these institutions: adding female athletes, cutting male athletes, or reallocating participation opportunities. The authors find that compliance is more likely at institutions with a smaller proportion of female undergraduates, with more resources for female athletics, with smaller athletic programs, and without a football team. They also find that a reallocation strategy (i.e., replacing participation slots for male athletes with slots for female athletes) is the most likely approach to compliance.

¹⁵ The first cycle began in 1993. Starting in 1998 all Division I institutions will complete a second cycle certification process according to a schedule laid out by the NCAA. ("NCAA Announces Athletics Certification Second Cycle Schedule", NCAA Press Release, September 29, 1998.)

¹⁶ See, for example, Pieronek (2000) and Shook (1996).

Also using 1995-1996 data, Rische (1999) examines the effect of the presence and profitability of football on both funding and participation opportunities. He finds that the more prominent a school's football program, the higher the absolute expenditures and the lower the relative expenditures per female athlete. He also finds that institutions with football programs are farther from Title IX compliance than institutions without, and that southern and historically black colleges and universities are more likely to be in violation of Title IX.

Carroll and Humphreys (2000) develop a behavioral model of the athletic director's behavior under Title IX regulation. Given resource constraints faced by most athletic departments, the theoretical model predicts that directors will eliminate men's sports in order to comply. An empirical analysis using 1991-1992 and 1995-1996 data confirms their theoretical model and further suggests that the prestige of an athletic department and the size of a school are inversely related to the decision to drop men's teams.

This paper adds to the empirical literature on Title IX compliance by combining data from 1995-1996 with data from 2000-2001 to examine the effect that various factors have had on encouraging compliance with Title IX. In addition to most of the factors considered in earlier studies, my analysis also includes various measures of formal and informal enforcement efforts. Finally, I also examine whether an institution is meeting or progressing towards substantial proportionality with respect to financial assistance as well as participation.

4. Empirical Analysis

The data on enrollment, participation, and scholarships for the 1995-1996 school year used in this analysis come from the 1996 NCAA member survey as supplemented by Sigelman

and Wahlbeck (1999).¹⁷ The data for the 2000-2001 school year come from *the Chronicle of Higher Education's* database of information filed under the Equity in Athletics Disclosure Act.¹⁸ Table 1 presents the number of institutions meeting substantial proportionality (i.e., within five percent of undergraduate enrollment) in participation and in scholarships by NCAA division.¹⁹ In 1995-1996, nine percent of institutions met substantial proportionality in participation and 16 percent met it in scholarships. These numbers rose to 25 and 28 percent in 2000-2001, respectively. However, full compliance with Title IX requires substantial proportionality in both.²⁰ In 1995-1996 only four percent of institutions were substantially proportionate in both participation and scholarships and in 2000-2001, the number had risen only to 12 percent.

¹⁷ Under the Equity in Athletics Disclosure act, the *Chronicle of Higher Education* acquired copies of the NCAA's 1995-1996 member survey. Sigelman and Wahlbeck (1999) obtained the NCAA data from the *Chronicle* and supplemented it with additional information. I am grateful to Lee Sigelman and Paul Wahlbeck for making this data available to me.

¹⁸ Available at <http://chronicle.com/stats/genderequity/>.

¹⁹ It is not clear what substantial proportionality in scholarships requires. I have chosen to define it as the proportion of scholarships given to women being within 5 percent of female undergraduate enrollment. Alternatively, one could consider it to be achieved when the proportion of scholarships given to women are within 5 percent of female participation. If a school is fully compliant, there is no difference in these interpretations. However, if an institution does not meet substantial proportionality in participation, the second interpretation is less strict.

²⁰ Compliance also requires equality in other areas such as facilities, equipment, practice time, etc. but these cannot be easily measured and thus are not included in this analysis.

In 1995-1996, Division I-AAA had the highest percentage of institutions meeting substantial proportionality. This is not surprising as Division I-AAA institutions do not have football teams. Both Sigelman and Wahlbeck (1999) and Rishe (1999) found that the presence of a football team significantly decreased the likelihood that an institution would be in compliance with Title IX, as football adds at least 60 male participation slots with no offsetting female slots. Both Division I-A and I-AA institutions have football teams. One major difference between the divisions is the number and type of football scholarships allowed: I-A programs can offer up to 85 football scholarships, all of which must be full scholarships, while I-AA programs can offer up to 63 scholarships, full or partial. This difference may explain the higher percentage of institutions meeting substantial proportionality in scholarships in Division I-AA compared to I-A. However, by 2000-2001, Division I-A had the highest percentage of institutions meeting substantial proportionality in participation. The reason for this difference in participation rates is not obvious as Division I-A schools differ from Division I-AA and I-AAA across many dimensions. For example, as shown in Table 2, in addition to differences in football programs, Division I-A institutions are larger, have a lower percentage of female undergraduates, and have more athletes participating.

To determine which characteristics of an institution may affect compliance as well as whether formal and informal enforcement mechanisms have been able to increase compliance, I conduct a series of econometric regressions. These regressions look at the 2000-2001 compliance status of Division I institutions as well as the progress that they have made toward compliance. The variables used in the regressions include the participation, enrollment, and scholarship data discussed above as well as data on formal and informal enforcement mechanisms and additional institutional characteristics.

To determine the factors that affect whether or not an institution meets substantial proportionality in participation and in scholarships, I run two probit regressions: one where the dependent variable is equal to 1 if the percentage of an institution's female participation is within 5 percentage points of its undergraduate enrollment and one where the dependent variable is equal to 1 if the percentage of an institution's athletic scholarships granted to women is within 5 percentage points of undergraduate enrollment. The results of these regressions are presented in Table 3, both in terms of the coefficient on and the marginal effect of each explanatory variable.²¹

First consider the institutional characteristics. Large schools are more likely to be in compliance than small schools. The marginal effect for size is significant and roughly the same for both participation and scholarships. For every additional 1000 students, the probability that a school meets substantial proportionality increases by one percentage point. The larger the school, the higher the athlete to student ratio and thus the larger the pool from which interested and able athletes can be drawn. At small schools, there may not be enough interested and able students to field an additional women's team, a path some schools have taken to increase the ratio of female participants. As expected, the percentage of the undergraduate body that is female has a negative and statistically significant effect in both regressions because the larger the female undergraduate percentage, the higher the ratio of female athletes and female athletic aid must be.

²¹ Probit coefficients can not be interpreted directly. The marginal effect for each coefficient is calculated in Stata using the `dprobit` routine. For continuous variables, it estimates the marginal effect as the change in probability for a infinitesimal change in the variable extrapolated out to a one unit change and for discrete variables as the change in probability when the variable changes from 0 to 1.

The marginal effect of the percentage of female undergraduates is slightly larger for participation than for scholarships: for every percentage point increase in the female undergraduate ratio, the probability of substantial proportionality decreases by almost 4 percentage points for participation and almost 3 percentage points for scholarships. To some extent scholarship dollars may be slightly easier to shift across genders than participation slots. For example, adding a women's team or dropping a men's team may take a significant amount of time (as it would generally require approval by the administration and governing boards) while athletic directors may have more discretion to increase or decrease the number and level of scholarships.

To measure the effect of a program's size and prestige, I include the number of athletes in the program, the operating budget of the program, and the amount of football revenues.²² Only the number of athletes in an institution's program in the scholarship regression has any significant effect. For every additional 100 athletes, the probability that an institution meets substantial proportionality in scholarships decreases by six percent. This result is generally consistent with Sigelman and Lee's (1999) finding that compliance is more likely in smaller programs. However, none of the other variables are significant, perhaps because all three variables are highly correlated with the size of an institution. The division an institution competes in also measures, to some extent, the size and prestige of the program. Both Division I-A and I-AA have football teams, but Division I-A has minimum attendance requirements for football games and all football scholarships are full scholarships while Division I-AA institutions

²² Number of athletes and operating budgets are for the 2000-2001 school year. Football revenues are for the 1995-1996 school year.

can have partial football scholarships.²³ Division I-A schools are significantly less likely to meet substantial proportionality in both participation and scholarships: the probability that a Division I-A institution meets substantial proportionality in participation is 27 percentage points lower and in scholarships 49 percentage points lower than that for a Division I-AAA institution, *ceteris paribus*.²⁴ Division I-AA institutions are also less likely to meet substantial proportionality than Division I-AAA: for participation the probability is 20 percentage points lower and for scholarships 21.

Given Rische's (1999) results, I also include two dummy variables in the regressions: one indicating whether the school is located in the South and one indicating whether the school is a Historically Black College or University (HBCU).²⁵ Rische finds that both HBCU's and southern institutions are less likely to be in compliance with Title IX. These results support Rische's findings with respect to southern institutions. Southern institutions are 20 percentage points less likely to meet substantial proportionality in participation and 12 percentage points less likely to meet it in scholarships than non-southern institutions. The results for HBCUs are less clear. In the Participation regression the coefficient on HBCU is negative, although it is not significant.

²³ The basic attendance requirements are an average of 17,000 per home game or an average of 20,000 for all games.

²⁴ Of course, as Table 2 indicates a I-AAA institution is unlikely to look like a I-A institution.

²⁵ The designation of Southern is based on the US News and World Reports regional designation in their college rankings. The Historically Black College and University designation was taken from <http://www.edonline.com/cq/hbcu/>.

In the Scholarship regression the HBCU variable had to be excluded because no HBCU meets substantial proportionality.²⁶

Four variables capture NCAA actions that could potentially affect Title IX compliance. Number of Sanctions Since 1992 measures the number of major infractions assessed by the NCAA since 1992 and On Probation indicates whether the institution is currently on NCAA probation.²⁷ Based on the NCAA's schedule for the second cycle certification process, I created two variables indicating whether the institution underwent its certification visit prior to 2001 (Certification Prior to 2001) and the number of years between the 2000-2001 school year and the certification visit (Years to Certification).²⁸ None of these four variables are significant in either of the two regressions, indicating that none of the NCAA's actions appear to affect whether or not an institution meets substantial proportionality.

Two variables, Compliant Filed and Complaint Resolved indicate whether a Title IX complaint was filed against an institution and whether the OCR found the complaint had merit and resolved it, respectively. The data on OCR complaints filed from 1990 to the present were

²⁶ In a probit regression if there is a certain characteristic which perfectly predicts the dependent variable, the estimated coefficient on that characteristic would be positive or negative infinity. However, if the model tries to estimate infinite parameters, the estimators will never converge and the regression cannot be estimated.

²⁷ These measures were taken from US News and World Reports College Sports Index, <http://www.usnews.com/usnews/edu/college/sports/sportsindex.htm>.

²⁸ "NCAA Announces Athletics Certification Second Cycle Schedule" (<http://www.ncaa.org/releases/makepage.cgi/divi/1998092901d1.htm>).

obtained from the Department of Education (DED) using a Freedom of Information Act request. Of the 260 complaints filed during this period, 124 were at 97 Division 1 institutions.²⁹ Neither of the complaint variables are significant in either of the two regressions, indicating that OCR complaints do not appear to affect whether or not an institution meets substantial proportionality. One reason why complaints may not be effective is that since 1990, OCR has never initiated an administrative enforcement proceeding, referred a case to the Department of Justice for enforcement, or decided to withhold federal funding. Moreover, according to Setty (1999) OCR's stated policy is to renegotiate a new compliance agreement with non-compliant institutions.

The final two variables, Lawsuit Filed and NWLC Case institutions, indicate whether an institution was named in a Title IX lawsuit filed by a student or by the National Women's Law Center (NWLC), respectively.³⁰ Since the passage of Title IX, 49 Division I institutions have been named in lawsuits regarding athletics opportunities or scholarships, including 25 institutions that were named in a lawsuit filed in 1997 by the NWLC.³¹ As with OCR complaints, the Title IX lawsuits do not appear affect whether an institution meets substantial proportionality.

²⁹ At some institutions there were multiple complaints filed. In addition, each complaint can cover multiple issues.

³⁰ These variables were constructed by reviewing legal articles and bibliographies for Title IX. See Miguel (1994), Setty (1999), Shaw (1995), Shook (1996), and the NCAA Title IX Resource materials website (http://www1.ncaa.org/membeship/ed_outreach/gender_equity/index.html).

³¹ Lawsuits regarding compensation of coaches are not included in this figure although they are considered Title IX actions.

Although the various formal and informal enforcement mechanisms included in the probit regressions do not appear to affect whether an institution school meets substantial proportionality, this result may be due to the fact that it takes time to make changes in an athletic program to bring it into compliance. For example, adding an additional women's sport could require the building of new fields or facilities as well as significant fundraising. Because complaints and lawsuits are more likely to be filed against institutions that are far from meeting substantial proportionality, the effect that complaints and lawsuits have on an institution's compliance status may not be apparent for a long time. However, these enforcement efforts could have a more immediate effect on an institutions progress towards compliance. To assess what factors have been effective in encouraging progress towards compliance, I run OLS regressions on the absolute and relative change in the difference between an institution's female undergraduate enrollment and its participation and scholarship percentages. More specifically, the absolute change in participation is defined as:

$$\{(1995-96 \text{ female undergraduate } \%) - (1995-96 \text{ female athlete } \%)\} - \{(2000-01 \text{ female undergraduate } \%) - (2000-01 \text{ female athlete } \%)\}.$$

The relative change for participation is defined as:

$$\{\text{absolute change}\} / \{(1995-96 \text{ female undergraduate } \%) - (1995-96 \text{ female athlete } \%)\}.$$

The absolute and relative changes in scholarship are defined analogously.

The regressions on absolute and relative changes only include those institutions that did not meet substantial proportionality in 1995-1996 because, in some sense, the institutions meeting substantial proportionality cannot make progress towards compliance. Also the factors that determine whether an institution remains in compliance are not necessarily the same as the factors that will affect whether an institution makes progress towards it. For a few institutions,

data on 1995-1996 enrollment, participation, and/or scholarships is not available. Thus the Participation regressions include observations for 272 institutions and the Scholarship regressions include observations for 238 institutions. Of the 272 institutions considered for the Participation regressions, 227 moved towards compliance, 36 moved away, and 9 made no progress. For the 227 moving toward compliance in participation, the average absolute change was 7 percentage points while the average relative change was 44 percent of the difference between enrollment and participation in the 1995-1996 school year. Of the 238 institutions considered for the Scholarship regressions, 207 moved towards compliance, 23 moved away, and 8 made no progress. For the 207 moving toward compliance in scholarships, the average absolute change also was 7 percentage points while the average relative change was 40 percent of the difference between enrollment and scholarships in the 1995-1996 school year.

The results of the Participation and Scholarship regressions are presented in Table 4. In addition to the variables included in the probit regressions on substantial proportionality, I also include a variable measuring the absolute difference in percentage points that the institution faced in 1995-1996. In all of the regressions the coefficients on this variable are positive and they are significant in three of the four, indicating that those institutions with the farthest to go are most likely to make progress towards compliance, both in absolute and relative terms. This is consistent with the idea that while there may be some relatively easy measures to increase female participation such as "roster management," such measures are limited and further increases require politically or fiscally difficult measures like dropping a men's sport or adding a woman's sport.³²

³² Roster management involves moving rosters for men's teams towards the minimum allowable while moving rosters for women's teams towards the maximum. Critics of this measure note that

Larger schools are more likely to be making progress towards compliance in participation than small schools, although size does not significantly affect progress in scholarships. As discussed earlier, the larger the school, the higher the athlete to student ratio and thus the larger the pool from which interested and able athletes, particularly women, can be drawn. This is important as the key for many schools in meeting substantial proportionality in participation is adding a women's sport. Scholarships potentially can be redistributed more easily than participation slots by increasing the average award for female athletes and decreasing it for male athletes and size is not directly related to an institution's ability to do this. As expected, the percentage of the undergraduate body that is female has a negative and statistically significant effect in all regressions because the larger the female undergraduate percentage, the higher the ratio of female athletes and female athletic aid must be and the harder it is to reach the goal. As in the probit regressions, none of the variables measuring a program's size or prestige have significant coefficients. Also as in the probit regressions, both Division I-A and I-AA institutions are making slower progress toward compliance than their Division I-AAA counterparts.

In the Participation regressions, southern institutions have made significantly less progress than non-southern institutions, but there is no significant effect in the Scholarship regressions. In all four regressions, the coefficient on HBCUs is negative, although it is only significant at conventional levels in the absolute Scholarship regression. One possible reason why there is not stronger evidence supporting Rishe's (1999) finding that HBCUs were less likely to be in compliance is that HBCUs have a higher percentage of female undergraduates

this does not necessarily increase female participation as many of the additional female athletes do little but sit on the bench.

than other institutions (59% vs. 53% on average) and Rishe did not control for the percentage of female undergraduates while these regressions do.

For most of the formal and informal mechanisms there is no significant effect on progress towards compliance. However, two variables do have a significant effect. Number of Sanctions Since 1992 does have a positive effect on absolute progress in participation. Institutions that have been sanctioned may lose recruits as a result of the sanctions. If these losses affect men's teams more than women's this could result in an increase in female participation. Another potential explanation is that institutions that have been sanctioned may work to improve gender equity as part of a public relations campaign to improve the image of their program. Institutions involved in the NWLC lawsuit also have made both relative and absolute progress towards compliance in scholarships. As the NWLC complaint was based on institutions not providing sufficient financial aid to female athletes, this result makes sense. For example, Duke University, one of the institutions named in the complaint, agreed to 1999 settlement to add 34 scholarships for women.³³ However, neither OCR complaints or lawsuits filed by students appear to have any effect on encouraging progress towards compliance in either participation or scholarships.

5. Conclusions

Twenty-five percent of Division I institutions are currently in compliance with the substantial proportionality requirement of Title IX, but only twelve percent meet substantial proportionality for both participation and scholarships. The larger the institution and the lower

³³ "Women and Sports: 30 Years of Title IX," *The Chronicle* (Duke University), October 29, 2002.

its percentage of female undergraduates, the more likely the institution is to be in compliance or making progress towards compliance. The presence of a football team lowers the probability that an institution will meet substantial proportionality in participation or scholarships. With respect to scholarships, institutions with football teams competing in Division I-A are even less likely to be in compliance or make progress towards compliance. Additionally, southern institutions and historically black colleges and universities are less likely to be in compliance and/or making progress towards compliance.

For the most part, none of the formal or informal enforcement mechanisms examined in this analysis appear to have any effect on Title IX compliance. In particular, the OCR's current complaint system has played no significant role in encouraging compliance. Moreover, although the National Women's Law Center lawsuit was able to increase progress towards scholarship compliance at the 25 institutions listed in the complaint, in general lawsuits have do not appear to have a significant effect on compliance. Finally, the NCAA has not used its authority to encourage compliance at its member schools.

Under the George W. Bush administration, the Secretary of the Department of Education formed a Commission on Opportunity in Athletics to review and debate the issues surrounding Title IX enforcement. The commission is charged with assessing the current standards for determining compliance and providing recommendations for revisions, if deemed necessary.³⁴ The results of this analysis suggest that none of the current enforcement mechanisms have been successful in encouraging progress towards compliance and that some change either in enforcement or compliance standards is warranted.

³⁴ See <http://www.ed.gov/inits/commissionsboards/athletics/about.html>.

References

- Carroll, Kathleen A. and Brad R. Humphreys. 2000. "Nonprofit Decision Making and Social Regulation: The Intended and Unintended Consequences of Title IX." *Journal of Economic Behavior and Organization*, 43:359-376.
- Miguel, Teresa M. 1994. "Title IX and Gender Equity in Intercollegiate Athletics: Case Analyses, Legal Implications, and the Movement Towards Compliance." *Sports Lawyers Journal*, 1: 279-302.
- Pieronek, Catherine. 2000. "Title IX and Intercollegiate Athletics in the Federal Appellate Courts: Myth vs. Reality." *Journal of College and University Law*, 27: 447-518.
- Rishe, Patrick James. 1999. "Gender Gaps and the Presence and Profitability of College Football." *Social Science Quarterly* 80:702-717.
- Setty, Sudha. 1999. "Leveling the Playing Field: Reforming the Office for Civil Rights to Achieve Better Title IX Enforcement." *Columbia Journal of Law and Social Problems* 32:331-358.
- Shaw, Peter L. 1995. "Achieving Title IX Gender Equity in College Athletics in an Era of Fiscal Austerity." *Journal of Sport and Social Issues* 19:6-27.
- Shook, Susan M. 1996. "The Title IX Tug-of-War and Intercollegiate Athletics in the 1990's: Nonrevenue Men's Teams Join Women Athletes in the Scramble for Survival." *Indiana Law Journal* 71:773-814.
- Sigelman, Lee and Paul J. Wahlbeck. 1999. "Gender Proportionality in Intercollegiate Athletics: The Mathematics of Title IX Compliance." *Social Science Quarterly* 80:518-538.

Table 1: Institutions Meeting Substantial Proportionality in Participation and Scholarships

Division*	Number of Institutions	Participation		Scholarships	
		1995-1996	2000-2001	1995-1996	2000-2001
I-A	115	10 (9%)	36 (31%)	5 (4%)	14 (12%)
I-AA	124	9 (7%)	24 (19%)	17 (14%)	32 (26%)
I-AAA	82	10 (12%)	19 (23%)	29 (35%)	45 (55%)
Total	321	29 (9%)	79 (25%)	51 (16%)	91 (28%)

*Division classification for 2000-2001 school year.

Table 2: Mean Characteristics of Institutions by Division (Standard Deviation in Parentheses)

Division*	Size	Female Undergraduate %	Number of Participants
I-A	16,008 (7,793)	48.85% (7.67%)	581 (188)
I-AA	6,791 (4,122)	52.81% (6.95%)	489 (221)
I-AAA	6,282 (4,428)	55.61% (5.41%)	299 (86)

Table 3: Probit Regression of Substantial Proportionality in 2000-2001 (N=321).

Variable	Participation		Scholarships	
	Coefficient (Standard Error)	Marginal Effect	Coefficient (Standard Error)	Marginal Effect
Size (in Thousands)	0.03* (0.02)	0.01*	0.03* (0.02)	0.01*
Female Undergraduate %	-15.87** (2.44)	-3.99**	-9.25** (1.63)	-2.75**
Number of Athletes (in Hundreds)	0.06 (0.06)	0.02	-0.21** (0.07)	-0.06**
Operating Budget (in \$100,000)	0.20 (0.21)	0.05	0.10 (0.23)	0.03
Football Revenues (in Thousands)	0.05 (0.04)	0.01	0.03 (0.05)	0.01
Division I-A	-1.26** (0.37)	-0.27**	-2.15** (0.41)	-0.49**
Division I-AA	-0.88** (0.29)	-0.20**	-0.75** (0.22)	-0.21**
Southern	-0.89** (0.26)	-0.20**	-0.45** (0.21)	-0.13**
Historically Black	-0.04 (0.60)	-0.01		
Number of Sanctions Since 1992	0.16 (0.19)	0.04	-0.26 (0.20)	-0.08
On Probation	0.01 (0.39)	0.002	0.45 (0.39)	0.15
Certification Prior to 2001	-0.20 (0.35)	-0.05	-0.04 (0.31)	-0.01
Years to Certification	-0.05 (0.05)	-0.01	-0.05 (0.04)	-0.01
Complaint Filed	0.24 (0.32)	0.06	-0.27 (0.32)	-0.07
Complaint Resolved	0.01 (0.35)	0.003	0.07 (0.37)	0.02
Lawsuit Filed	0.23 (0.32)	0.06	0.24 (0.34)	0.08
NWLC Case Institution	0.12 (0.38)	0.03	-0.42 (0.48)	-0.10
Constant	8.20** (1.42)	NA	6.19** (1.06)	NA

Coefficients and standard errors are rounded. **Significant at 95%, *Significant at 90%.

Table 4: Regression of Progress towards Substantial Proportionality from 1995-2001
(Standard Errors in parentheses).

Variable	Participation		Scholarships	
	Absolute Change (N=272)	Relative Change (N=272)	Absolute Change (N=238)	Relative Change (N=238)
1995-1996 Difference	0.648** (0.061)	2.055** (0.432)	0.558** (0.058)	0.719 (0.452)
Size (in Thousands)	0.001** (0.001)	0.012** (0.005)	0.0001 (0.0006)	0.0003 (0.0049)
Female Undergraduate %	-0.558** (0.084)	-3.798** (0.591)	-0.424** (0.080)	-2.303** (0.622)
Number of Athletes (in Hundreds)	0.002 (0.002)	0.018 (0.016)	0.002 (0.003)	0.005 (0.022)
Operating Budget (in \$100,000)	0.00001 (0.00007)	0.0003 (0.0005)	0.00001 (0.00007)	-0.0002 (0.0006)
Football Revenues (in Thousands)	0.001 (0.002)	0.004 (0.011)	0.0004 (0.0015)	-0.003 (0.011)
Division I-A	-0.045** (0.014)	-0.270** (0.099)	-0.073** (0.015)	-0.311** (0.118)
Division I-AA	-0.043** (0.011)	-0.223** (0.076)	-0.047** (0.012)	-0.198** (0.093)
Southern	-0.019** (0.007)	-0.155** (0.047)	-0.008 (0.007)	-0.020 (0.055)
Historically Black	-0.021 (0.013)	-0.074 (0.092)	-0.037** (0.014)	-0.137 (0.108)
Number of Sanctions Since 1992	0.013** (0.006)	0.061 (0.041)	0.004 (0.006)	0.010 (0.045)
On Probation	-0.014 (0.012)	-0.002 (0.082)	-0.004 (0.013)	0.077 (0.098)
Certification Prior to 2001	-0.002 (0.010)	-0.045 (0.073)	-0.002 (0.011)	-0.110 (0.088)
Years to Certification	0.001 (0.001)	-0.002 (0.010)	0.001 (0.002)	-0.001 (0.012)
Complaint Filed	-0.001 (0.011)	-0.005 (0.036)	-0.003 (0.011)	-0.060 (0.083)
Complaint Resolved	0.003 (0.011)	0.036 (0.078)	-0.006 (0.011)	-0.020 (0.088)
Lawsuit Filed	0.003 (0.011)	0.011 (0.075)	0.001 (0.013)	0.001 (0.098)
NWLC Case Institution	0.009 (0.011)	0.059 (0.082)	0.028** (0.012)	0.171* (0.091)
Constant	0.261** (0.046)	2.105** (0.327)	0.227** (0.047)	1.706** (0.368)

Coefficients and standard errors are rounded. ** Significant at 95%, * Significant at 90%.