

October 26, 2011

## **BRIAN M. MILLS**

Department of Sport Management

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## **EDUCATION**

- **Ph.D., Sport Management**, University of Michigan, *Expected April of 2012*
  - Concentration: *Managerial Sports Economics and Operations Research in Sport*
  - Dissertation: *Attendance Time Series of North American Professional Sports and a Long-Run Test of the Uncertainty of Outcome Hypothesis*
  - Adviser: *Dr. Rodney Fort*
- **M.A., Applied Economics**, University of Michigan, *Expected April of 2012*
  - Major: *Labor Economics*
  - Minor: *Industrial/Organizational Economics*
- **M.A., Statistics**, University of Michigan, 2011
  - Specialization: *Applied Econometrics & Multivariate Analysis*
  - Thesis: *Using Tree Ensembles to Analyze National Baseball Hall of Fame Voting Patterns: An Application to Discrimination in BBWAA Voting*
- **M.A., Sport Management**, University of Michigan, 2008
- **B.A., Psychology**, St. Mary's College of Maryland, 2006
  - Honors Thesis: *Mediating Factors of Academic Performance Among NCAA Division III Athletes and Non-Athletes*

## **RESEARCH EXPERIENCE**

- Research Assistant for Dr. Rodney Fort, University of Michigan, 2007-Present
  - *Sports Economics and Fan Demand*
- Research Assistant for Dr. Mark Rosentraub, University of Michigan, 2009-10
  - *Metropolitan Demand for Sports and Economic Development*
- Research Assistant for Dr. Kathy Babiak, University of Michigan, 2008-09
  - *Professional Athlete Philanthropy*

## **TEACHING EXPERIENCE**

- **SM313/SM249** - Research Methods in Sport Management, Fall 2010
  - Graduate Student Instructor (GSI, Lecture Section)
  - Responsible for developing and presenting lectures for this new class introducing undergraduates to both the scientific research process and analytical tools (SPSS and Excel) used in business research
  - Co-developed labs and student projects with fellow a graduate student who was the instructor for the hands-on laboratory section

## **AWARDS, SCHOLARSHIPS, AND FELLOWSHIPS**

- Kinesiology Travel Award, University of Michigan, 2011-2012 (\$487)
- Rackham International Travel Grant, University of Michigan, 2011 (\$850)
- Kinesiology Travel Award, University of Michigan, 2010-2011 (\$500)
- Stan Kemp Scholarship, U of M School of Kinesiology, 2010-2011 (\$1,500)
- Lucille M. Swift Honor Award, U of M School of Kinesiology, 2010-2011 (\$1,000)
- Shapiro/Malik/Forrest Award Recipient, University of Michigan, 2010 (\$500)
- Shapiro/Malik Award Recipient, University of Michigan, 2009 (\$500)
- Shapiro/Malik Award Recipient, University of Michigan, 2008 (\$1,000)
- Sport Management Doctoral Assistantship, University of Michigan, 2008-2012
- Sport Management Graduate Fellowship, U. of Michigan, 2007-2008 (\$5,000)
- Maryland State Senatorial Scholarship, St. Mary's College, 2005-2006 (\$2,000)
- Presidential Academic Scholarship, St. Mary's College, 2002-2006 (\$12,000)

## **REFEREED JOURNAL PUBLICATIONS**

Babiak, K., **Mills, B.**, Tainsky, S. & Juravich, M. (forthcoming). An investigation into professional athlete philanthropy: Is charity part of the game? Accepted for publication at the *Journal of Sport Management*.

**Mills, B.M.** & Salaga, S.H. (forthcoming). Using Tree Ensembles to Analyze National Baseball Hall of Fame Voting Patterns: An Application to Discrimination in BBWAA Voting. Accepted for publication at the *Journal of Quantitative Analysis in Sports*.

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## **Under Revision/Review:**

Rosentraub, M., **Mills, B.M.**, Cantor, M., Fort, R. & Winfree, J. Cities and sports facilities: A look at limited fiscal gains from public investments. Under consideration at *Public Budgeting and Finance*.

**Mills, B.M.** & Rosentraub, M. Hosting mega-events: A guide to the evaluation of development effects in integrated metropolitan regions. Under consideration at *Tourism Management*.

**Mills, B.M.** & Fort, R.D. League-level attendance and outcome uncertainty in the NBA, NFL and NHL. Under consideration at *Economic Inquiry*.

## **CURRENT WORK**

### **Works In Progress:**

**Mills, B.M.** & Fort, R.D. Stationarity of MLB franchise attendance and long-term analysis of the uncertainty of outcome hypothesis. (70 Page Manuscript). To be submitted to *Review of Industrial Organization*.

Tainsky, S., **Mills, B.M.**, & Winfree, J. Using Pitch F/X to evaluate the extent of umpire discrimination in Major League Baseball. (33 Page Manuscript). To be submitted to *The American Economic Review*.

**Mills, B.M.** Social pressure, familiarity and physical proximity: Evaluating umpire strike-calling biases with Pitch F/X. (25 Page Manuscript). To be submitted to *Review of Economics and Statistics*.

Kwak, D.H., Lee, J.S. & **Mills, B.M.** Fantasy website advertisements and fantasy football participant winning expectancies. (Data Analysis Stage). To be submitted to the *Journal of Sport Management*.

**Mills, B.M.** & Salaga, S.H. The hockey hall of fame and discrimination against French-Canadian players in the NHL: Random forests as a classification method. (Manuscript in Progress). To be submitted to *Canadian Public Policy*.

**Mills, B.M.** The time series behavior of franchise attendance in the NFL, NHL and NBA: Structural change, uncertainty of outcome and league policy. (70 Page Manuscript).

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Cantor, M., **Mills, B.M.** & Rosentraub, M.S. Attendance demand and wealth: an evaluation of population density and professional sports stadium placement. (*Data Analysis Stage*).

### **Developmental Stages:**

Rosenraub, M., **Mills, B.**, Fort, R. & Winfree, J. How many teams and venues can a region support? Measuring the supply and demand for teams, events, and venues in metropolitan regions. (*Data Collection Stage*).

**Mills, B.M.** Calculating a normalized RSD measure for leagues with unbalanced schedules: A simulation approach. (*Data Analysis Stage*)

**Mills, B.M.** Variable fan response to visiting team quality in MLB: A model-based cluster analysis. (*19 Page Manuscript*).

### **CONFERENCE PRESENTATIONS**

*\*\*Denotes Presenting Author(s)*

**Mills, B.M.\*\*** & Fort, R. D. (2011). Major League Baseball franchise attendance and the uncertainty of outcome hypothesis. *Presented at the North American Society for Sport Management Conference (London, Ontario; June 2011)*.

Rosenraub, M., **Mills, B.M.\*\***, Winfree, J. & Cantor, M.\*\* (2011). Public investments in sports facilities: Who really pays and the implications for progressive taxation. *Presented at the North American Society for Sport Management Conference (London, Ontario; June 2011)*.

**Mills, B.M.\*\*** & Rosentraub, M. (2011). Measuring the local economic benefits of regional assets: Opportunity costs and the best use of land for regional development. *Presented at the 7<sup>th</sup> Annual International Conference on Tourism (Athens, Greece; June 2011)*.

Salaga, S.\*\* & **Mills, B.M.\*\*** (2011). Predicting hockey hall of fame induction and considering the occurrence of discrimination against French-speaking players. *Presented the Joint Statistical Meetings (Miami, Florida; August 2011)*

**Mills, B.M.** & Fort, R.\*\* (2011). Stationarity and attendance breakpoint analysis in the NBA, NFL and NHL. *Presented at the Western Economic Association Conference (San Diego, California; July 2011)*.

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Tainsky, S., **Mills, B.M.**, Winfree, J.A.\*\* (2011). Umpire bias in MLB using Sportsvision's Pitch F/X pitch location data. *Presented at the Western Economic Association Conference (San Diego, California; July 2011).*

**Mills, B.M.\*\***, Kwak, D.H.\*\* & Lee, J.S.\*\* Fantasy football winning expectancy and mediating roles of opponent expectations. *Abstract under consideration at the North American Society for Sport Management Conference (Seattle, Washington; June 2012)*

Cantor, M.\*\*, **Mills, B.M.\*\*** & Rosentraub, M.S. Defining available wealth and its impact on demand for attendance in Major League Baseball: Home values, local population density and stadium placement. *Abstract under consideration at the North American Society for Sport Management Conference (Seattle, Washington; June 2012)*

## **OTHER PRESENTATIONS & SYMPOSIUMS**

**Mills, B.M.\*\*** (2011). Applications of spatial modeling in sports: Social pressure, physical proximity and baseball umpire bias. *Presented at the University of Michigan Department of Sport Management Inaugural Graduate Student Research Symposium for Industry Leaders (Ann Arbor, Michigan; September 2011).*

## **CONSULTING**

- **Trackman Technologies (2011)** – Provided preliminary analysis of advanced pitch-tracking system that uses Doppler radar and suggestions for statistical models of fielding evaluation.
- **Economic Development Report (Confidential, Fall 2010)** – Analysis of potential impact of a new baseball stadium in a large urban area. *Work Team: Mark Rosentraub and Rodney Fort.*
- **Palace Sports and Entertainment (Spring/Summer 2010)** – Marketing analysis of demographic groups and event ticket-buying behavior and development of proprietary customer purchase scoring system. Lead statistical programmer on the project. *Work Team: Jason Winfree and Steve Salaga.*
- **General Sports and Entertainment (Winter 2007)** – Evaluation of viral marketing feasibility in the Ann Arbor, MI area for the launch of a sports-related social networking website. *Completed as requirement for M.A. degree in Sport Management.*

## **OTHER WRITING / GUEST CONTRIBUTIONS**

*“Creating Wins”*. A guest column at the StatDNA research blog regarding analytics in soccer using a vector generalized additive model to evaluate win probability added by specific soccer events given the field location they take place. (<http://blog.statdna.com/post/2011/09/07/Creating-Wins-Research-competition-Guest-Post-1.aspx>).

*“sab-R-metrics”*. This is a series of tutorials at my website and through the R-Bloggers website using baseball data to learn statistical programming in the open-source R language. The series has been highlighted in the January/February 2011 *Revolution Analytics Newsletter*.

*“ProGUESTus: The Rookie Effect”*. A guest column at Baseball Prospectus investigating the common thought that rookie batters are pitched to differently than their veteran counterparts. (<http://www.baseballprospectus.com/article.php?articleid=13501>).

*“Deep Diving on A.J. Burnett”*. (It’s About the Money Stupid, ESPN Sweetspot Network). Involved developing a heat map analysis for selected pitchers with the New York Yankees <http://itsaboutthemoney.net/archives/2010/09/23/deep-diving-on-aj-burnett>, September 23, 2010).

*“Weird Science”*, a semi-regular column for Fantasy Baseball Junkie discussing league structure and fantasy sports strategy (<http://www.fantasyballjunkie.com>, 2009-2011) .

## **ACADEMIC SOCIETIES AND MEMBERSHIPS**

- North American Society for Sport Management, Student Member, 2008-Present
- American Statistical Association, Student Member, 2010-Present
  - *Section in Statistics in Sports*
  - *Section in Statistical Computing and Graphics*
  - *Section in Business and Economics Statistics*
- Interdisciplinary Committee on Organizational Studies (ICOS) – University of Michigan (Student Member 2008-Present)

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## **VOLUNTEERISM AND LEADERSHIP**

- Student Athletic Advisory Board Representative, St. Mary's College, 2005-06
- "Reading Buddies" Group – Local St. Mary's County elementary school volunteering reading to underprivileged Kindergarten students (2004-06)
- Varsity Baseball, St. Mary's College of MD, 2002-06 (Captain 2006)
- Capital Athletic Conf. All-Academic Baseball, St. Mary's College, (2004-06)
- Asst. Varsity Baseball Coach, **Urbana High School**, Ijamsville, MD (2007)
- Resident Substitute Teacher, **Urbana High School – Frederick County Public Schools**, Ijamsville, MD (2004-07)