

Part-Time Faculty Exposure and Student Retention Outcomes: Is There a Relationship?

Michael Cogan
AIRUM Conference
November 6, 2008

Presentation Overview

- Institutional Setting
- Literature
- Questions
- Study Design
- Exploring PT Faculty Exposure
- Findings
- Implications
- Future Research

University of St. Thomas

- Private, not-for-profit Catholic institution
- Diocesan
- Nearly 11,000 students
- 6,150+ Undergraduate
- FTFY 1,300
- Fall-to-fall retention rate of 88 percent
- Core curriculum
- Student Profile

Opportunity

- Increased incoming classes
- Increased undergraduate population
- Faculty and student concerns over quality of teaching
- Desire to maintain and/or increase current retention and graduation rates

Literature

- Harrington & Schibik (2004)
- Ronco & Cahill (2006)
- Harrington & King (2007)
- American Association of University Professors (2006 & 2008)

Questions

- What impact does the presence of part-time faculty have on the fall-to-fall retention of first time, first year students at UST?
- What impact does the presence of part-time faculty have on the cumulative grade point average (GPA) of first time, first-year students after one year at UST?

Study Design

- Fall-to-Fall Retention (categorical)
 - Binary Logistic Regression
 - DV is categorical (yes/no)
 - Coefficient of determination (r^2)
 - Forward selection
 - Collinearity and VIF
- Cumulative GPA after one year (interval)
 - Multiple Regression
 - DV is interval
 - Coefficient of determination (r^2)
 - Forward selection
 - Collinearity and VIF



Defining Retention

- Cohort-First-time bachelors (or equivalent) degree-seeking undergraduate entering in the fall term (or summer)
- Fall-to-Fall Retention-Cohort students from the previous fall, enrolled in the current fall, are considered to be retained.
- Excludes transfer, students entering in the spring, graduate, professional, etc.

Defining Part-Time

- A part-time faculty employee, according to the Northwest commission, is one “whose major responsibility is not related to the institution in question
- Faculty categories (e.g., full-time, part-time, adjunct), writes the New England commission in its 2005 *Standards for Accreditation*, “are clearly defined by the institution as is the role of each category in fulfilling the institution’s mission and purposes”
- At UST, part-time faculty may include adjuncts who teach one or two classes, staff, or retired full-time faculty

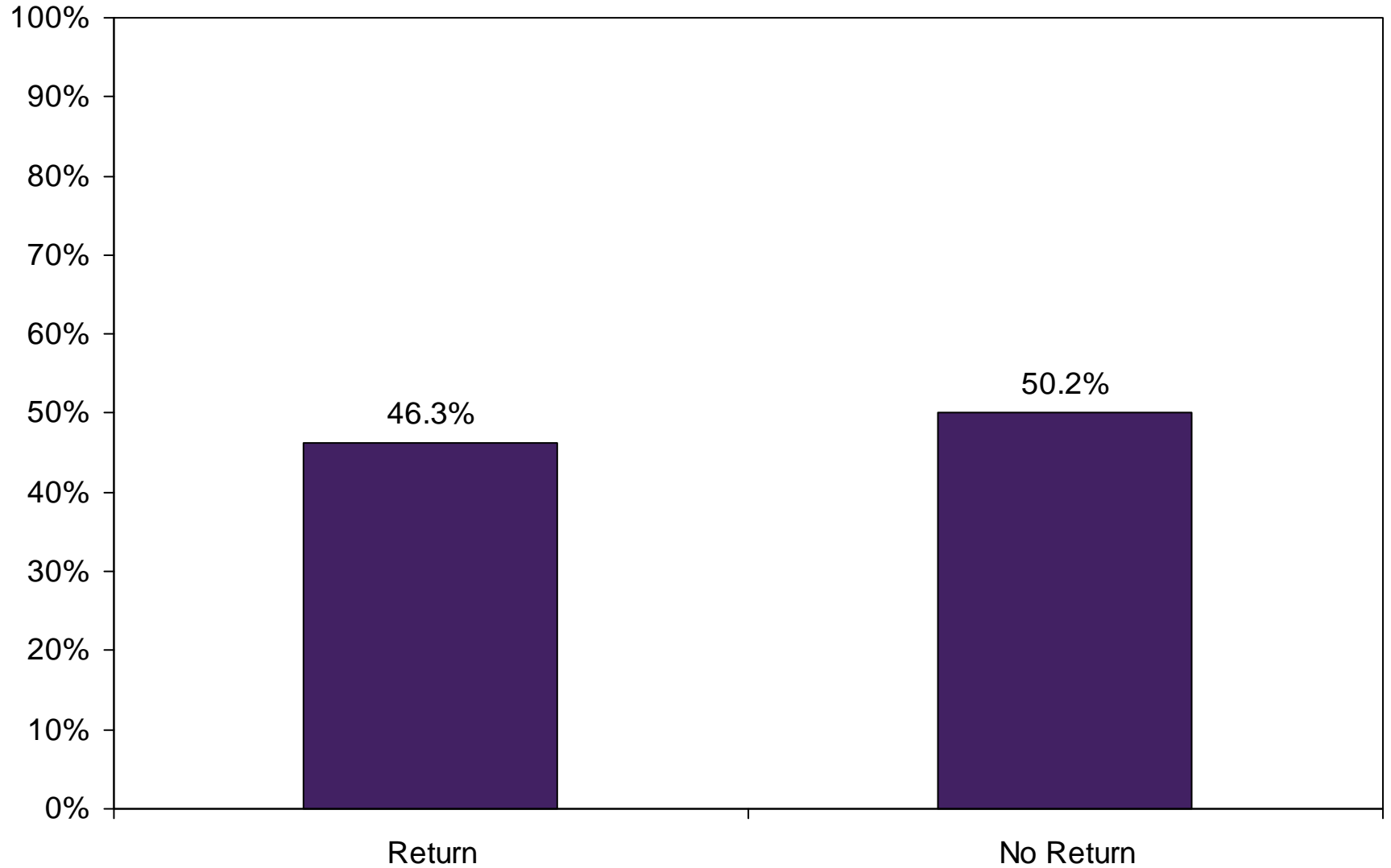
Exploring Faculty Exposure

- Multiple options for assigning a faculty exposure value
 - Quantitative
 - Percent of PT faculty (courses taught by PT faculty/all courses)
 - Categorical
 - Number of courses taught by PT faculty (1 thru 6) per student
 - Percent of PT faculty per student separated into quartiles (1st thru 4th)

Quantitative

- FTFY students, on average, are exposed to PT faculty in 46.8% of their courses during their first term
- The range of PT faculty exposure for FTFY students is between 0 and 100%
- Approximately 68% of FTFY students experience a PT faculty exposure rate between 23% and 71%.
- The correlation (r) between PT faculty exposure and cumulative GPA is $-.055$ ($p < .05$)
- We can run a t-test to determine whether there is a difference in retention when considering PT faculty exposure

Fall-to-Fall Retention by PT Faculty Exposure

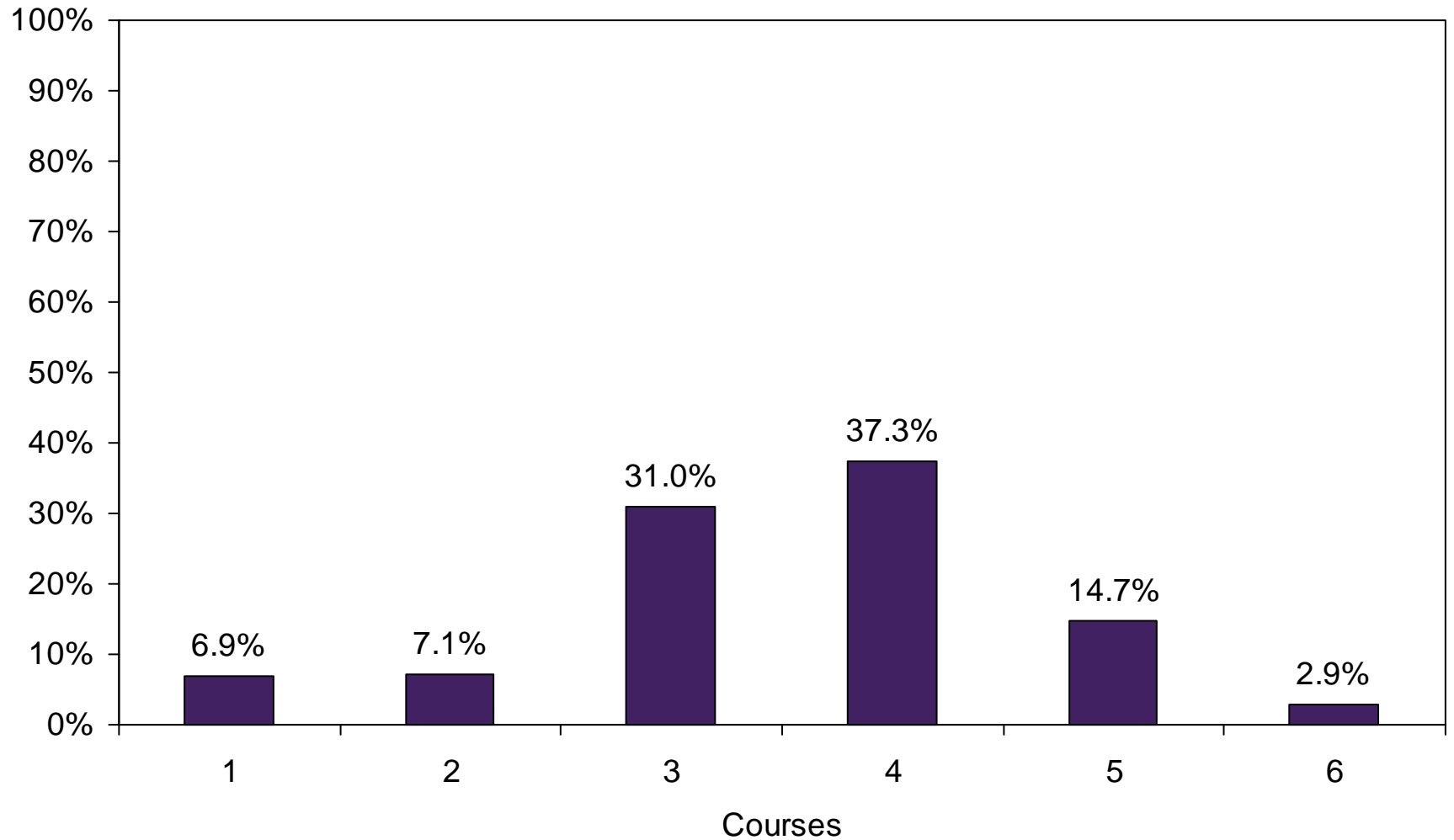


p=.001

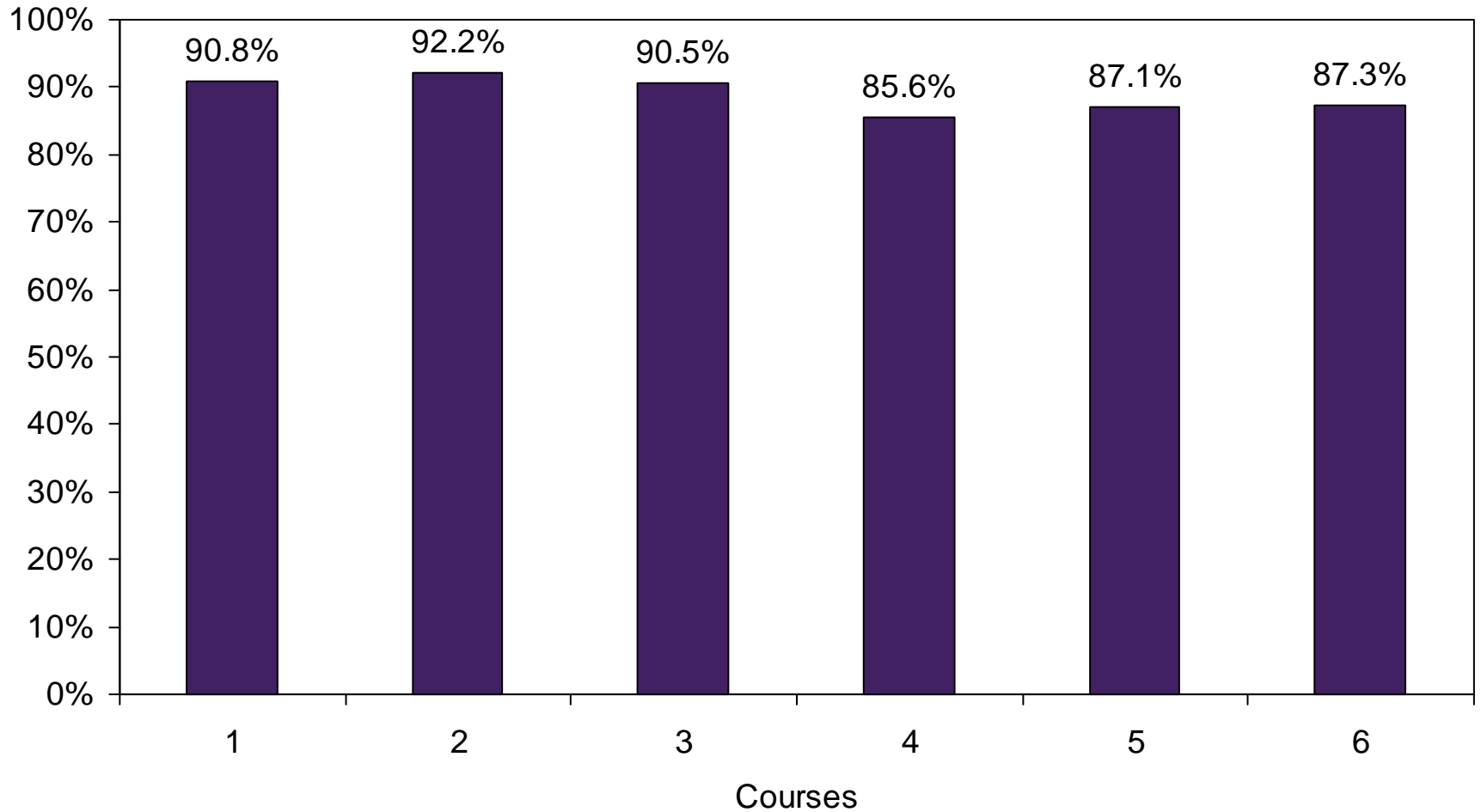
Categorical

- Seventy-five percent of FTFY students are enrolled in four or fewer courses taught by PT faculty
- Three percent of FTFY students are enrolled in courses taught exclusively by PT faculty
- A one-way ANOVA indicates students who are assigned to the first quartile concerning PT faculty exposure will achieve a significantly higher cumulative GPA than those assigned to the third or fourth quartile.

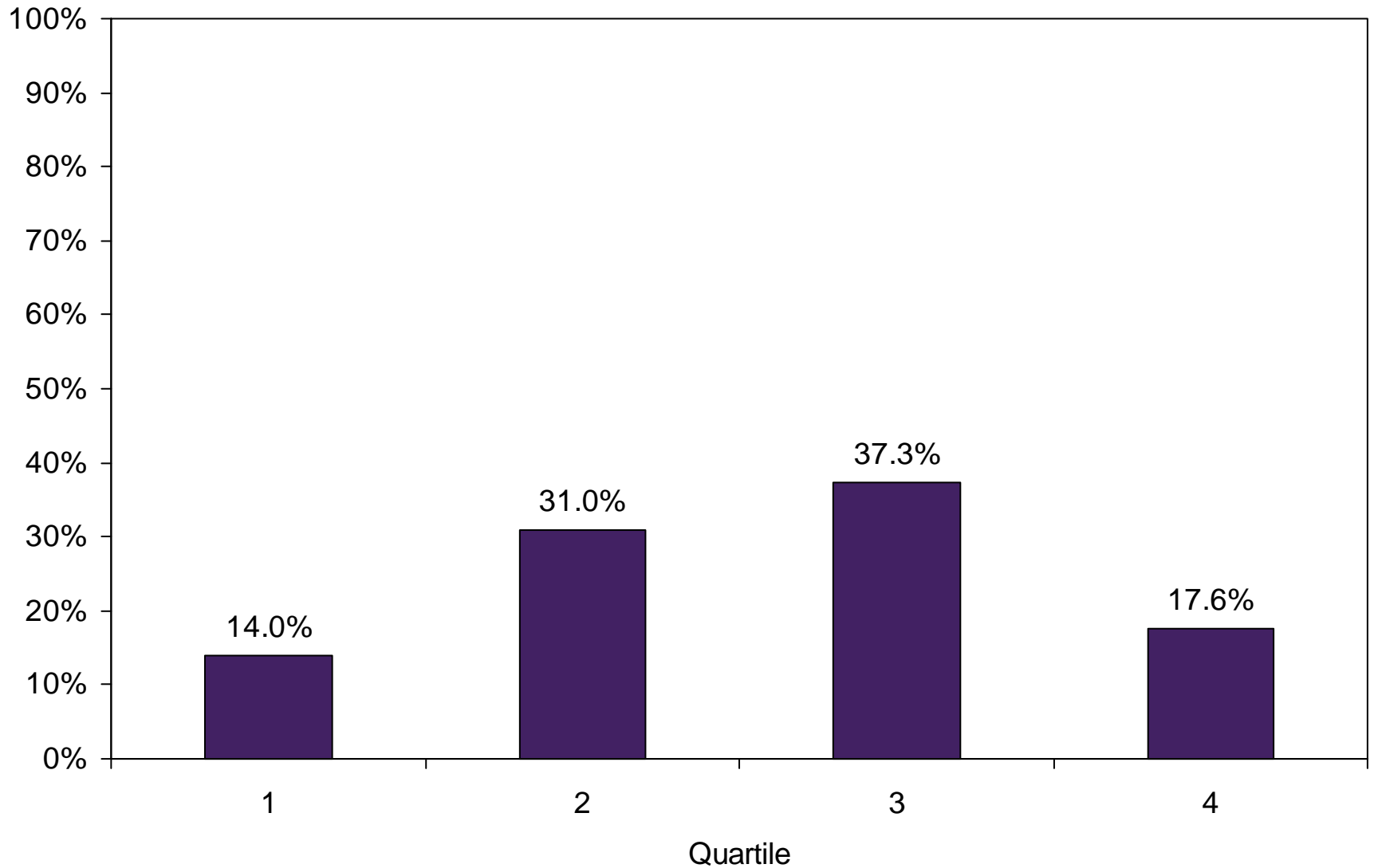
PT Faculty Exposure of FTFY Students by Number of Courses



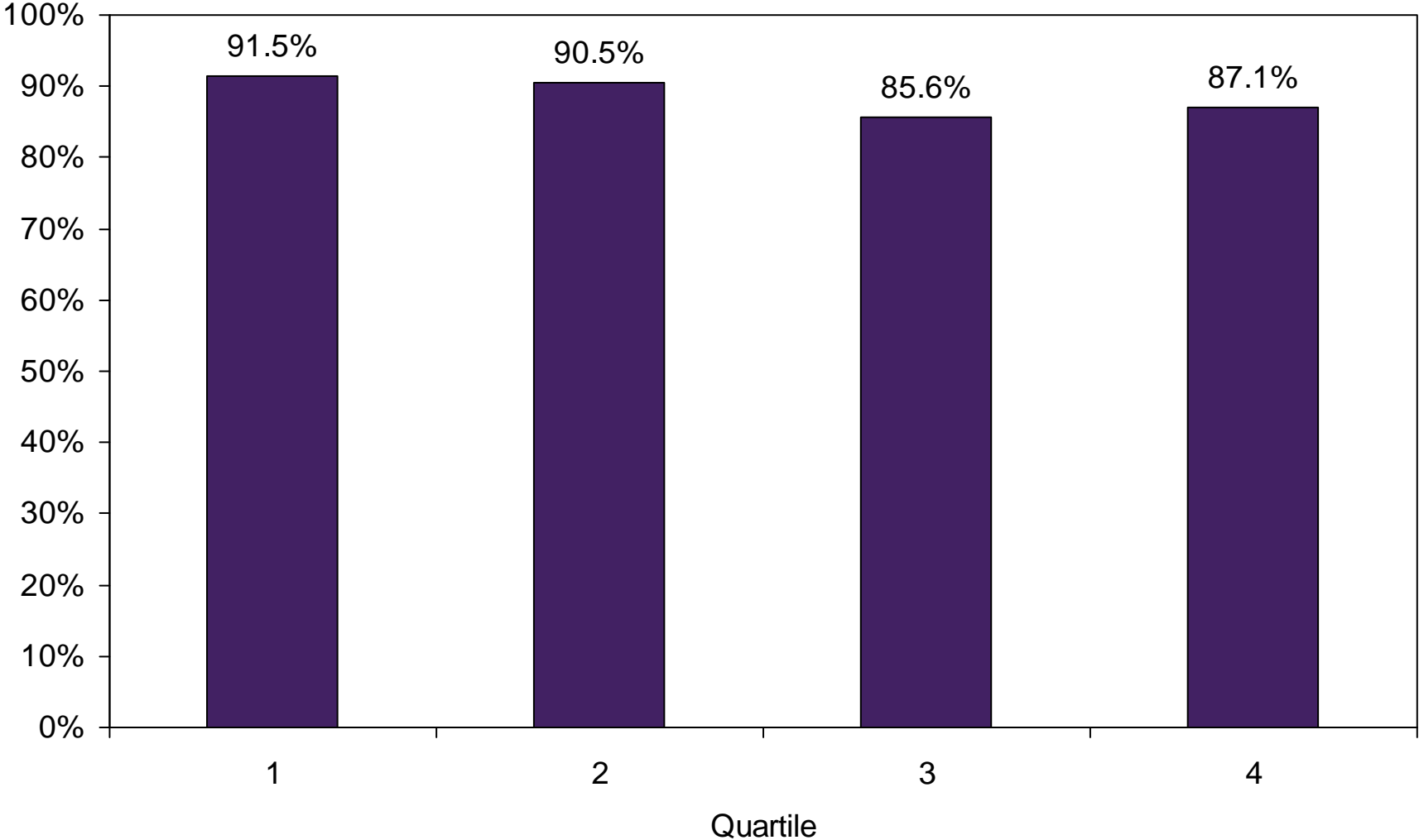
Fall-to-Fall Retention Rates of Students when Considering Number of Courses Taught by PT Faculty per Student



PT Faculty Exposure of FTFY Students by Quartile



Fall-to-Fall Retention Rates of Students when Considering PT Faculty Exposure by Quartile Assignment



Dependent Variables

- Fall-to-Fall Retention (categorical)
 - 0=Did not return
 - 1=Did return
 - Descriptive
 - Mean=.882, *sd*=.322
- Cumulative GPA after one year (interval)
 - .00 thru 4.00
 - Descriptive
 - Mean=3.11, *sd*=.627

Independent Variables

Category	Variable	Range	Mean	<i>sd</i>	Description
Intellectual Capital	High School GPA	2.66-4.00	3.55	0.363	High School GPA
	ACT Composite	18-36	24.81	3.307	ACT Composite Score
	Transfer Credit	0-82	6.33	9.538	Credit transferred in through PSEO, AP, etc.
Demographic	Gender	0-1	0.48	0.500	If male (1)
	Race	0-1	0.89	0.318	If white (1)
SES	Pell	0-1	0.12	0.330	If Pell recipient (1)
Pre-UST Interaction	Orientation	0-1	0.676	0.468	If early orientation (1)
	Residence Hall	0-1	0.923	0.267	If on-campus residence (1)
Academics	Credits Enrolled	12-22	15.82	1.318	Credits enrolled fall semester census
	Part-Time Faculty	0-100	0.468	0.238	Part-Time Faculty expressed as a percentage
	Fall GPA	0.00-4.00	3.08	0.705	GPA earned for first fall semester

Question 1

- What impact does the presence of part-time faculty have on the fall-to-fall retention of first time, first year students at UST?

Intercorrelations for Fall-to-Fall Retention and Predictor Variables

	1	2	3	4	5	6	7	8	9	10	11	12
1. Fall-to-Fall	1											
2. Gender	0.04*	1.00										
3. High School GPA	0.11**	-0.21**	1.00									
4. ACT Composite	0.06**	0.08**	0.40**	1.00								
5. Pell Recipient	-0.04*	-0.06**	-0.03	-0.12**	1.00							
6. Orientation (early/late)	0.10**	-0.03	0.08**	0.05**	-0.07**	1.00						
7. Transfer Credit	0.08**	-0.07**	0.30**	0.34**	0.00	0.04*	1.00					
8. PT Faculty Exposure	-0.05**	-0.04*	-0.07**	-0.14**	0.03	-0.08**	-0.11**	1.00				
9. Residence	0.10**	0.02	0.03*	0.08**	-0.11**	0.07**	0.01	0.00	1.00			
10. Fall Term Credits	0.04**	-0.08**	0.20**	0.18**	0.01	0.06**	0.04**	-0.03	0.08**	1.00		
11. Race by Category	0.02	0.04*	0.07**	0.18**	-0.19	0.05**	0.04**	0.00	0.15**	0.05**	1.00	
12. Fall GPA	0.27**	-0.12**	0.50**	0.33**	-0.09**	0.08**	0.20**	-0.03*	0.11**	0.17**	0.15**	1.00

*. $p < .05$, ** $p < .01$

Summary of Logistic Regression

Factor	B	S.E.	Exp(B)	<i>p</i>	Wald
Gender	-.512	.116	.599	.001	19.529
ACT Composite	-.055	.019	.946	.004	8.508
Orientation (early/late)	.461	.113	1.586	.001	16.574
Transfer Credit	.019	.007	1.019	.011	6.394
Part-time Faculty Exposure	-.525	.239	.592	.028	4.814
Housing	.411	.183	1.058	.025	5.025
First Term (Fall) GPA	1.019	.072	2.772	.001	198.997
Constant	.215	.493	1.240	.663	.190

-2 Log Likelihood=2291.97; Goodness-of-fit=7.404, $X^2(7)=290.155$, $p<.001$

Model Summary

Step	Factor	-2LL	R ² *
1	Fall GPA	2347.61	.123
2	Orientation (early/late)	2329.26	.132
3	Gender	2312.24	.141
4	Part-time Faculty Exposure	2308.11	.143
5	ACT Composite	2303.52	.145
6	Transfer Credits	2296.72	.148
7	Residence	2291.97	.151

Question 2

- What impact does the presence of part-time faculty have on the cumulative grade point average (GPA) of first time, first-year students after one year at UST?

Intercorrelations for Fall-to-Fall Retention and Predictor Variables

	1	2	3	4	5	6	7	8	9	10	11
1. Cumulative GPA	1										
2. Gender	-.145**	1.00									
3. PT Faculty Exposure	-.053**	-.044*	1.00								
4. High School GPA	.564**	-.213**	-.067**	1.00							
5. ACT Composite	.364**	.077**	-.147**	.397**	1.00						
6. Pell Recipient	-.079**	-.060**	.025	-.024	-.116**	1.00					
7. Orientation (early/late)	.083**	-.026	-.074**	.079**	.052**	-.065**	1.00				
8. Residence	.100**	.007	.003	.035*	.076**	-.114**	.062**	1.00			
9. Transfer Credit	.259**	-.070**	-.108**	.295**	.337**	.005	.040*	.013	1.00		
10. Fall Term Credits	.173**	-.079**	-.023	.202**	.173**	.009	.056**	.061**	.046*	1.00	
11. Race by Category	.150**	.042*	-.005	.069**	.172**	-.197**	.034*	.130**	.042*	.031*	1.00

*. $p < .05$, ** $p < .01$

Summary of Multiple Regression

Factor	B	S.E.	Beta	t	p
High School GPA	.791	.026	.463	30.201	.001
ACT Composite	.025	.003	.132	8.472	.001
Race by Category	.158	.027	.079	5.758	.001
Transfer Credit	.004	.001	.068	4.739	.001
Housing	.135	.032	.057	4.200	.001
Gender	-.067	.017	-.054	-3.914	.001
First Term (Fall) Credits	.021	.007	.044	3.181	.001
Pell Recipient	-.066	.026	-.035	-2.543	.011
Constant	-.885	.127		-6.943	.001

-2 Log Likelihood=2291.97; Goodness-of-fit=7.404, $X^2(7)=290.155$, $p<.001$



Model Summary

Step	Factor	r^2	r^2 change
1	High School GPA	.318	.318
2	ACT Composite	.341	.023
3	Race by Category	.349	.008
4	Transfer Credit	.353	.004
5	Housing	.356	.003
6	Gender	.359	.003
7	First Term (Fall) Credits	.361	.002
8	Pell Recipient	.362	.001

Implications

- Fall-to-Fall Retention-Fall GPA
- Cumulative GPA-HS GPA
- Effect of PT faculty exposure is minimal at best
- Results confirm recent studies concerning PT faculty exposure

Future Research

- Refine the definition of part-time
- Focus on core curriculum
- Monitor progress from prerequisite courses to higher level courses

Discussion

Contact Information

Michael Cogan

University of St. Thomas

(651) 426-2315

mfcogan@stthomas.edu