

Demographic Data on Textbooks and Usage Statistics: Implications for Textbook Cost-saving Analysis

Campus eTextbook Initiative
Oversight Team
Project Team

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Textbook Study and Data Analyses

□ Objectives

- To better understand demographic data on textbooks and usage
- To better understand textbook format preferences
- To better understand textbook buying patterns
- To help us assess student savings when more widely adopting electronic textbooks on campus

□ Methodology (Data Source and Data Collection)

- Michigan Textbook Data, Fall 2011 (large enrollment courses)
- Student Survey, Winter 2012: 2,583 students in 6 large enrollment courses were invited to take a survey; 30% response rate.

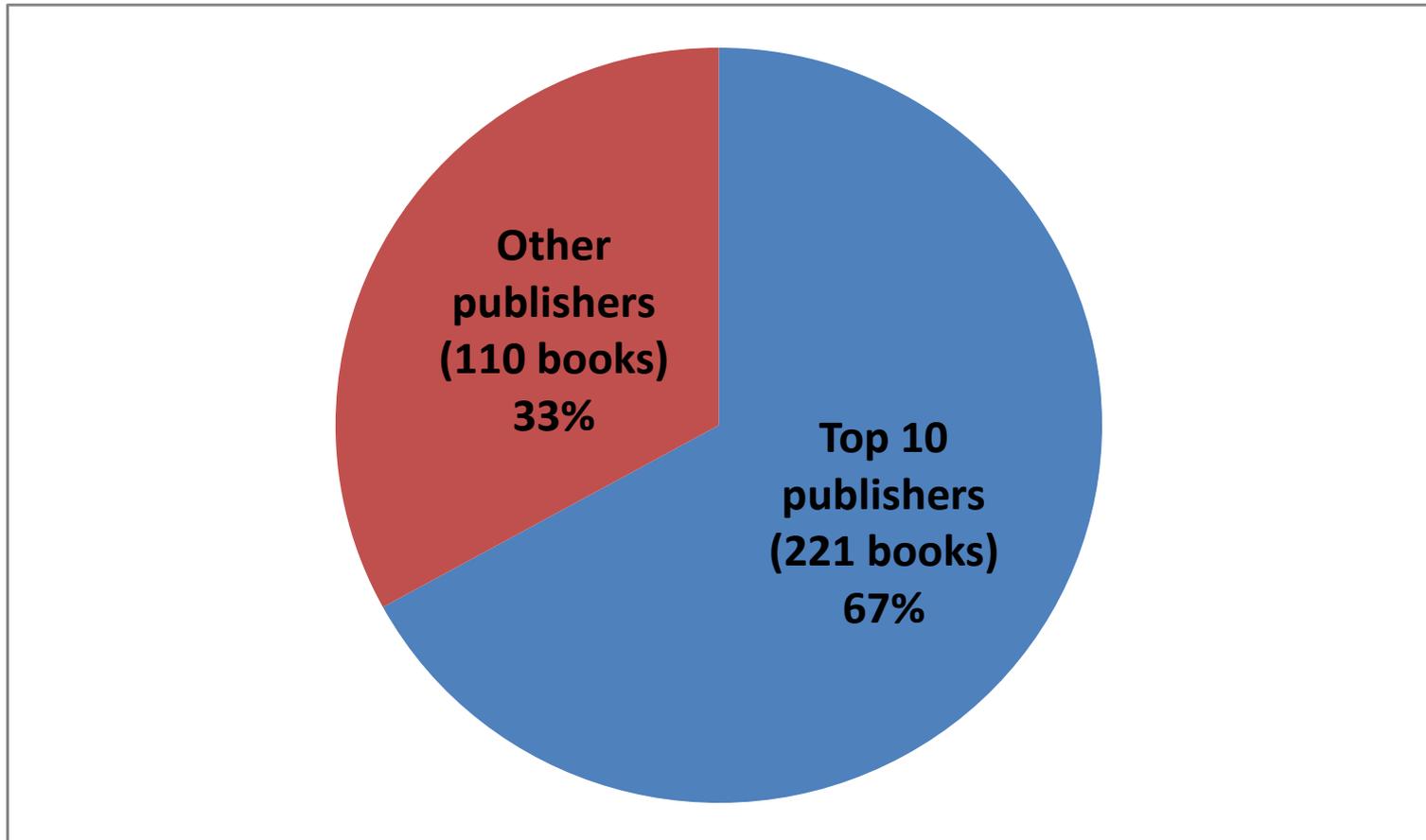
Textbook Usage and Data Distribution in Large Enrollment Courses (>200), Fall 2011

Summary of Findings

- 4,500-5,500 textbook data entries are made via Wolverine Access on Ann Arbor campus each semester.
- In Fall 2011, 5,159 textbooks were assigned as either required or optional readings on Ann Arbor campus.
- In 122 large enrollment courses (>200 students), 331 textbooks were assigned to students in fall 2011.
- In total, there are 75,227 students were registered in those 122 large enrollment courses. (Note: Some students can be counted multiple times.)
- Of 331 textbook titles, 67% are published by ten major publishers.
- Of 75,227 students, 74% use textbooks published by the ten major publishers.

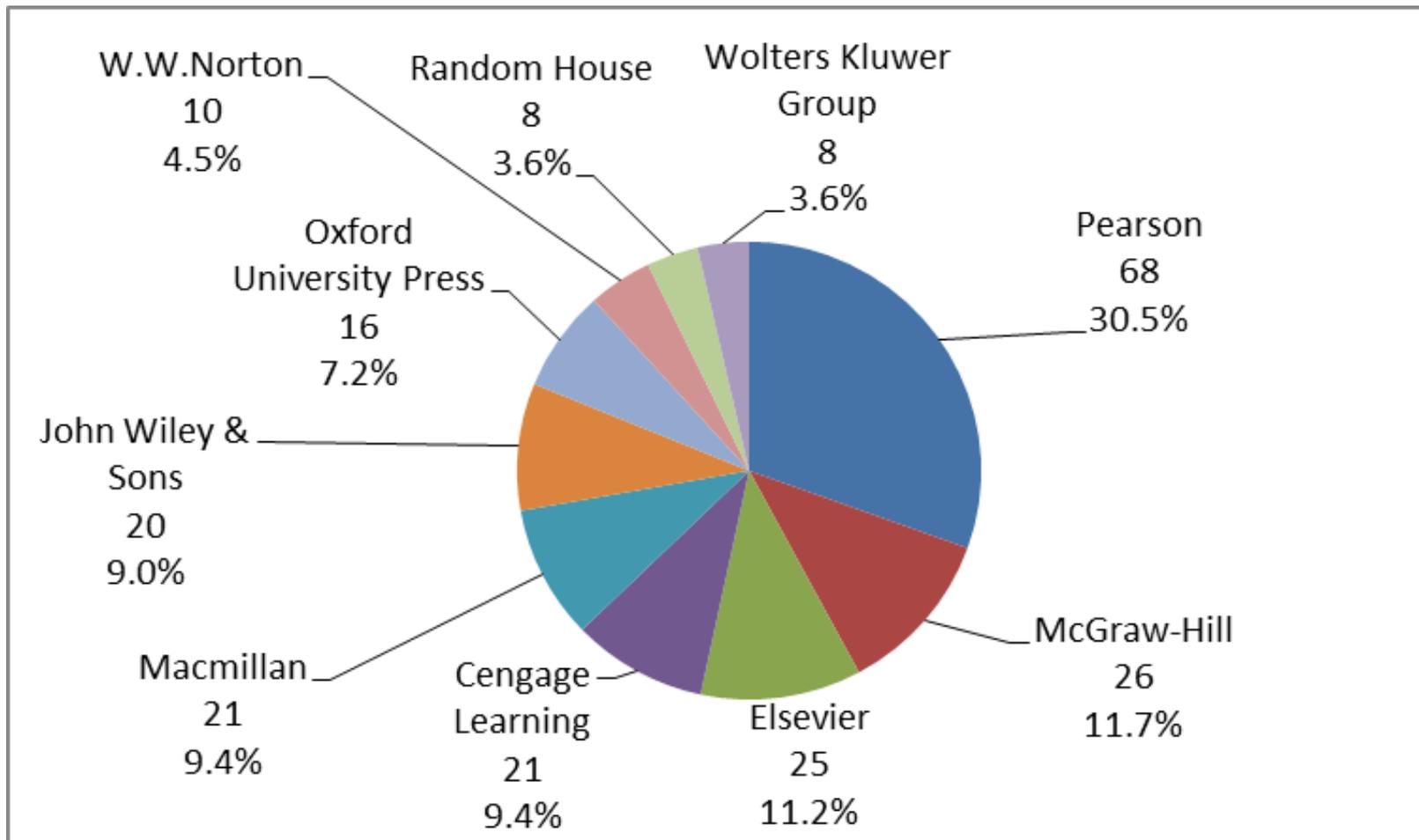
Textbook data distribution in high enrollment classes (>200), Fall 2011

331 unique textbook counts sorted by two categories,
'Top 10 publishers' and 'Other publishers'



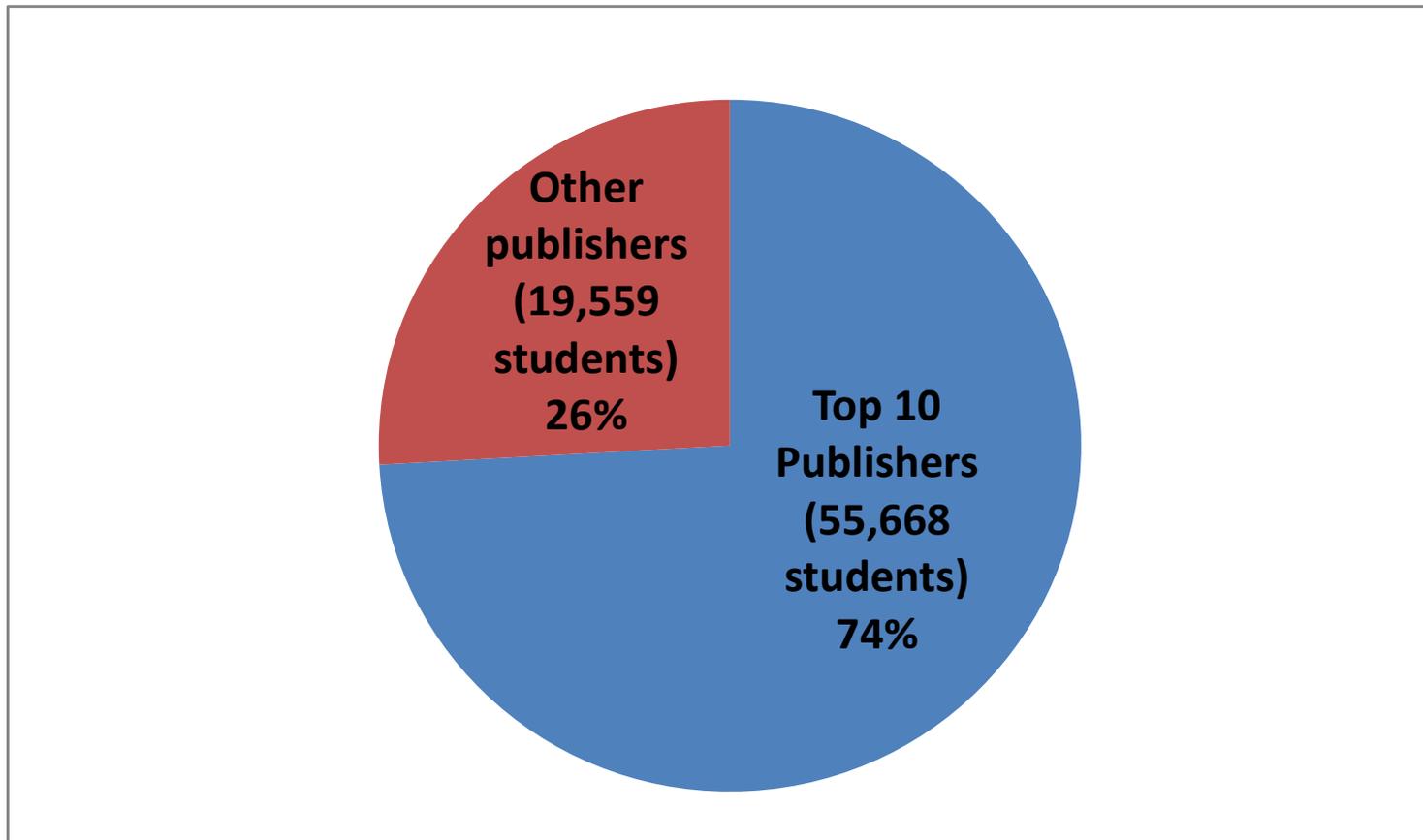
Textbook data distribution in high enrollment classes (>200), Fall 2011

67% of 331 unique textbook counts sorted by top 10 publishers



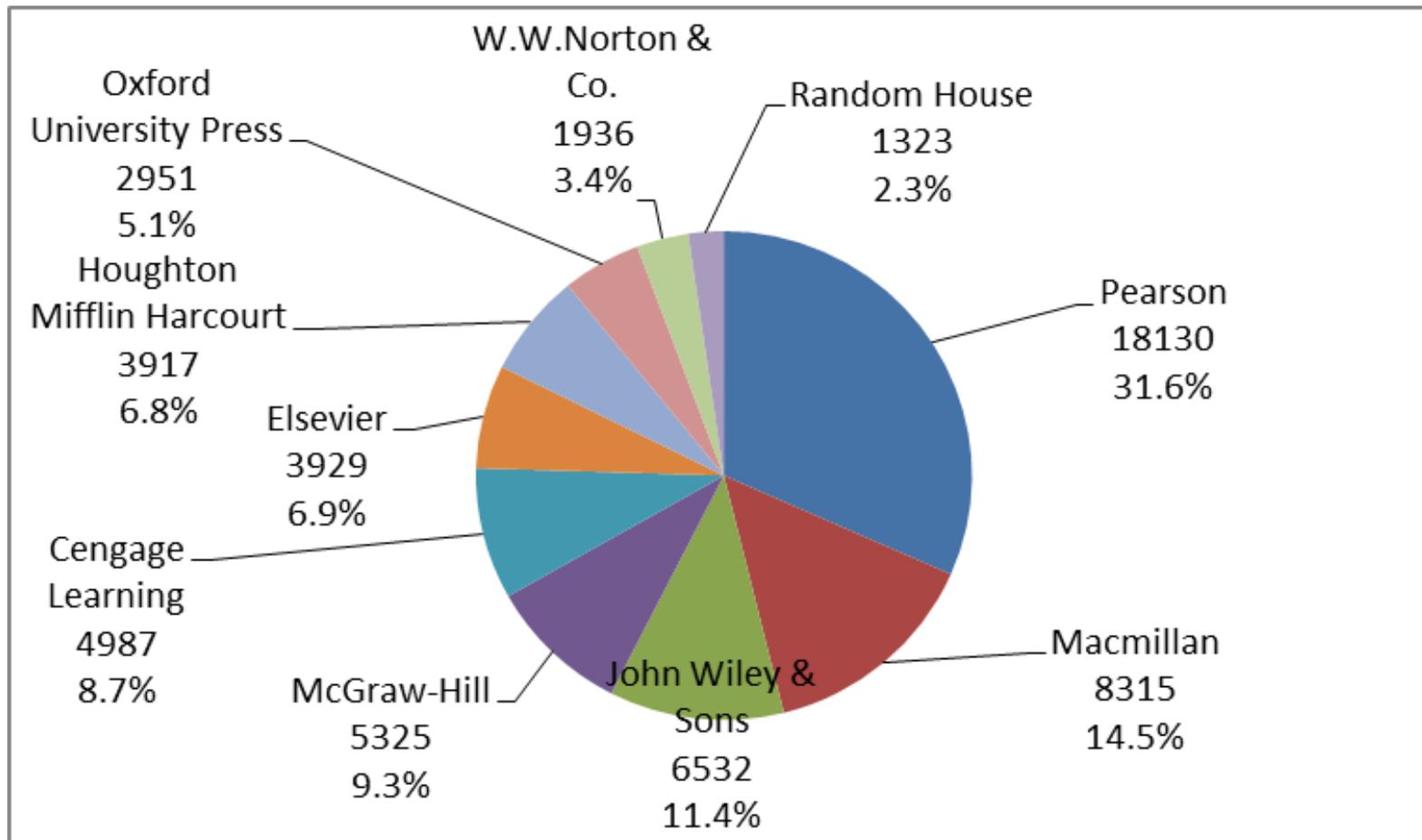
Textbook data distribution in high enrollment classes (>200), Fall 2011

75,227 (non-unique) student counts sorted by two categories, 'Top 10 publishers' and 'Other publishers'



Textbook data distribution in high enrollment classes (>200), Fall 2011

74% of 75,227 (non-unique) student counts sorted by top 10 publishers



Textbook Usage at Michigan

In terms of both textbook and student counts, the same six commercial publishers make it on the list.

By textbook count:

- Pearson 30%
- McGraw-Hill 12%
- Elsevier 11%
- Cengage 9%
- Macmillan 9%
- Wiley 9%

By enrollment:

- Pearson 31%
- Macmillan 14%
- Wiley 11%
- McGraw-Hill 10%
- Cengage 9%
- Elsevier 7%

Textbook Price Comparison

Data Source:

Large Enrollment Courses (>200), Fall 2011

Textbook Price Comparison

The following analyses are based on the data and information on **141** textbooks published by:

- Cengage Learning (19)
- Elsevier (20)
- Houghton Mifflin Harcourt (6)
- John Wiley & Sons (20)
- Macmillan (16)
- McGraw-Hill (17)
- Oxford University Press (14)
- Pearson (29)

Summary of Findings

- Based on the textbook pricing data gathered from online stores (Amazon, Chegg and CourseSmart), prices vary across different formats.
- Average prices are:
 - Purchase new print: 88% of list price
 - Purchase used print: 65% of list price
 - Rent (new/used) print: 43% of list price
 - Rent/subscribe eTextbook: 50% of list price

Average Textbook Prices by Format and Vendor Channel (List price set at \$100)

Data source: U of M Textbook Data, Fall 2011, Large Enrollment Courses (N=141 textbooks)

BUY					RENT			
New Print Textbook		Used Print Textbook		Kindle Format	Print Textbook		eTextbook	
List Price	Amazon	Amazon	Chegg	Amazon	Amazon (trade-in)	Chegg (180 days)	CourseSmart (180 days)	Chegg (180 days)
\$100	\$77	\$66	\$64	\$56	\$42	\$44	\$55	\$61
\$88		\$65		\$56	\$43		\$58	

Note: Amazon trade-in option allows a customer to receive only an Amazon gift card, not cash.

These findings shifted our focus to the following questions:

Q. What do we know about student preference for textbook format?

Q. What do we know about Michigan student's textbook buying behavior and spending patterns?

To answer these questions, we conducted a student survey in February 2012.

Student Survey, Winter 2012

Discussion of Survey Results

Target Courses and Response Rate

Class code	Total enrollment	Survey responses	Response rate
ANTHRBIO 161	216	95	44%
BIO 305	411	128	31%
CHEM 216	934	269	29%
MCDB 310	210	71	34%
POLSCI 160	234	77	33%
PSYCH 250	578	125	22%
TOTAL	2583	765	30%

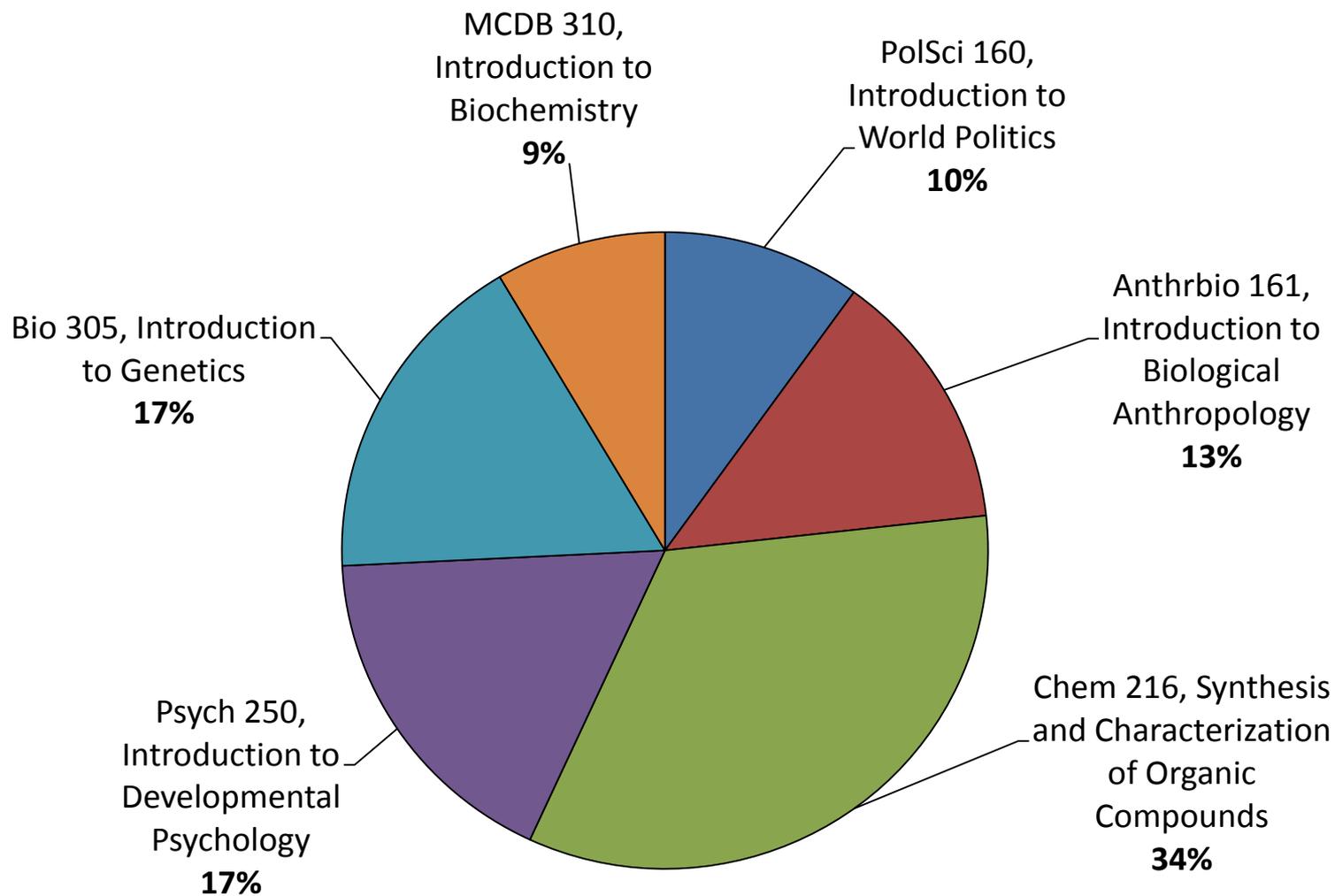
Textbook Information of Surveyed Courses

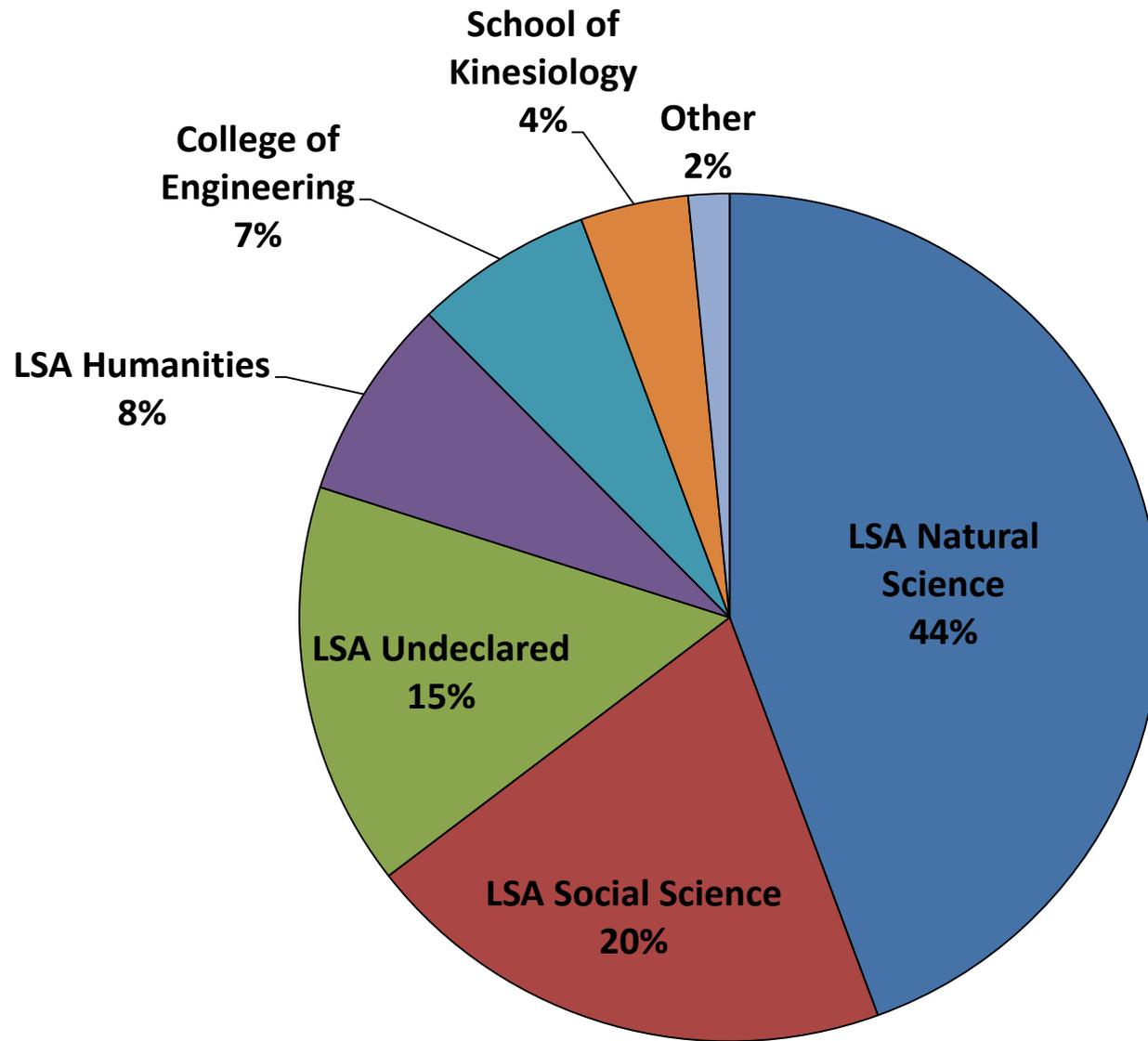
Course	Textbook Title	Author(s)	Edition	Publisher	Year of publication	Print list price	Bundle (Print + eText)
ANTHRBIO 161	How Humans Evolved	Robert Boyd and Joan B. Silk	6th	W.W. Norton	2011	\$111	NA
Biology 305	Introduction to Genetic Analysis	Anthony J.F. Griffiths et al.	10th	W.H. Freeman	2010	\$137.99	NA
Chemistry 216	Organic Chemistry: Structure and Reactivity	Seyhan N. Ege	5th	Houghton Mifflin Harcourt	2004	\$225	NA
	Making the Connections: A How-To Guide for Organic Chemistry Lab Techniques	Anne B. Padias	2nd	Hayden McNeil	2011	\$65	NA
	Lab Manual: Synthesis and Characterization of Organic Compounds	Department of Chemistry	Custom	UM Custom	2012	\$35	NA
MCDB 310	Lehninger Principles of Biochemistry	David L. Nelson and Michael M. Cox	5th	W.H. Freeman	2008	\$199.95	\$206.95
Political Science 160	World Politics: Interests, Interactions, and Institutions	Jeffry A. Frieden, David A. Lake, and Kenneth A. Schultz	1st	W.W. Norton	2009	\$73.75	NA
	Cases in International Relations	Donald M. Snow	5th	Pearson	2012	\$53.80	NA
Psychology 250	The Developing Person Through the Life Span	Kathleen Stassen Berger	8th	Worth Publishers	2011	\$121.86	NA

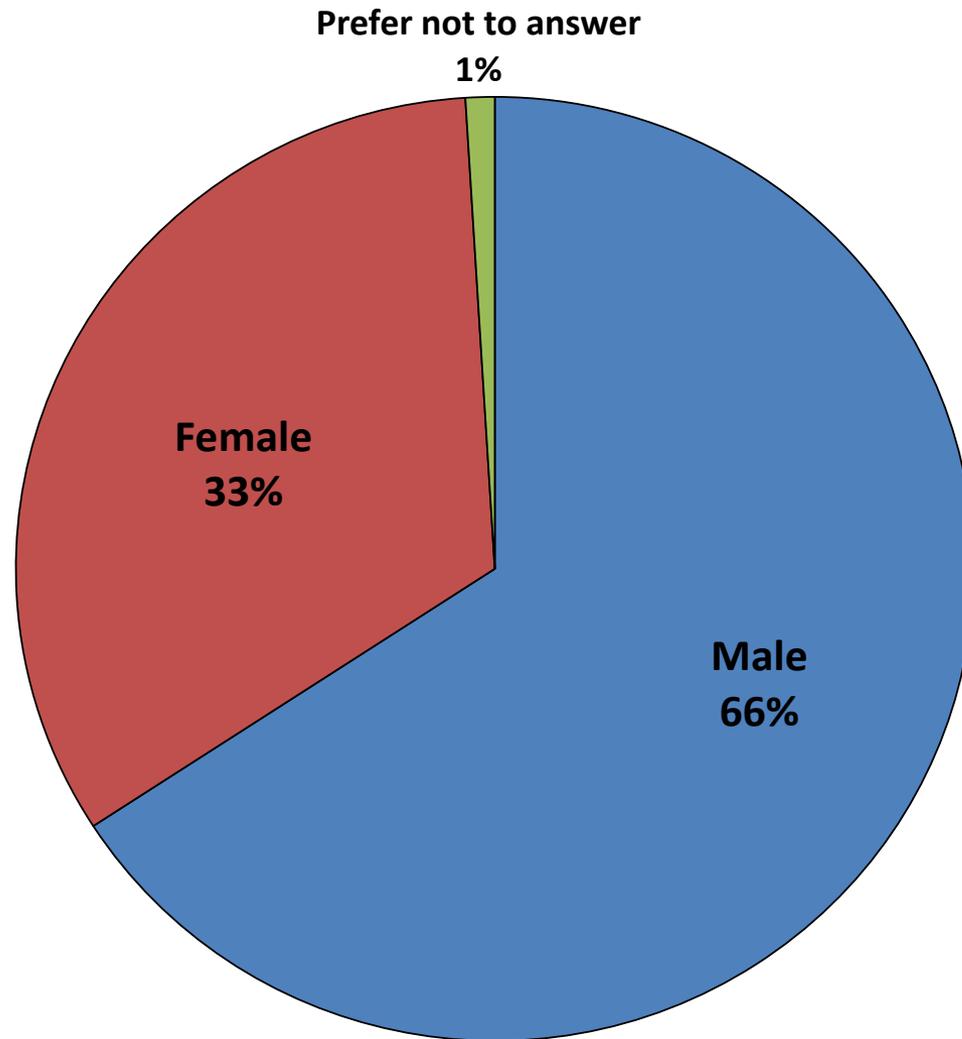
Selected Survey Questions

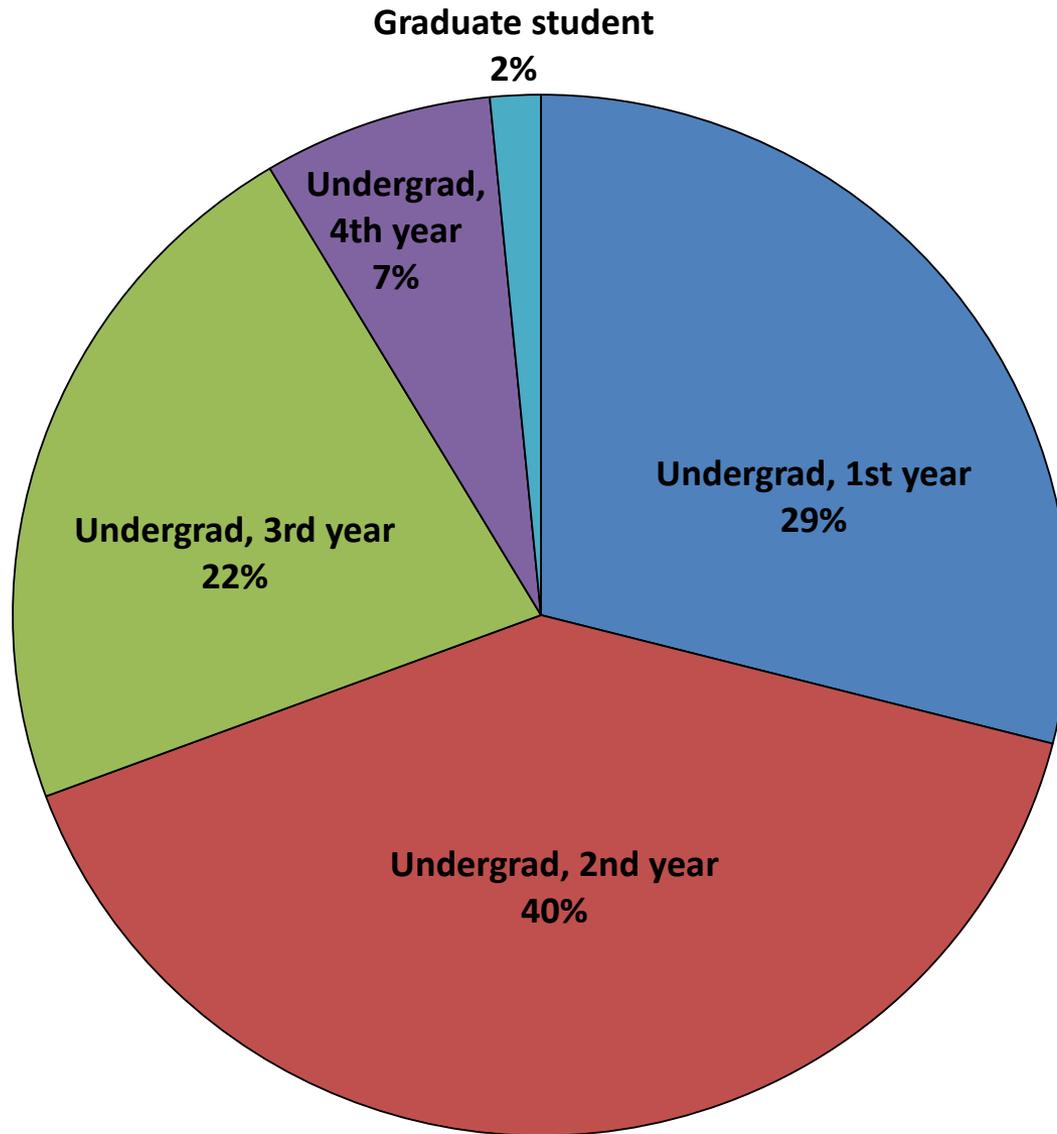
- In general, which of the following textbook formats would you prefer to use? 1) New print text only, 2) Used print text only, 3) Both print and eText, 4) eText Only, 5) No format preference, 6) Don't know.
- How much did you spend on your textbooks?
- How did you obtain the copy of your textbooks?
- Do you plan to sell back any of your print textbooks at the end of the semester?

Demographics





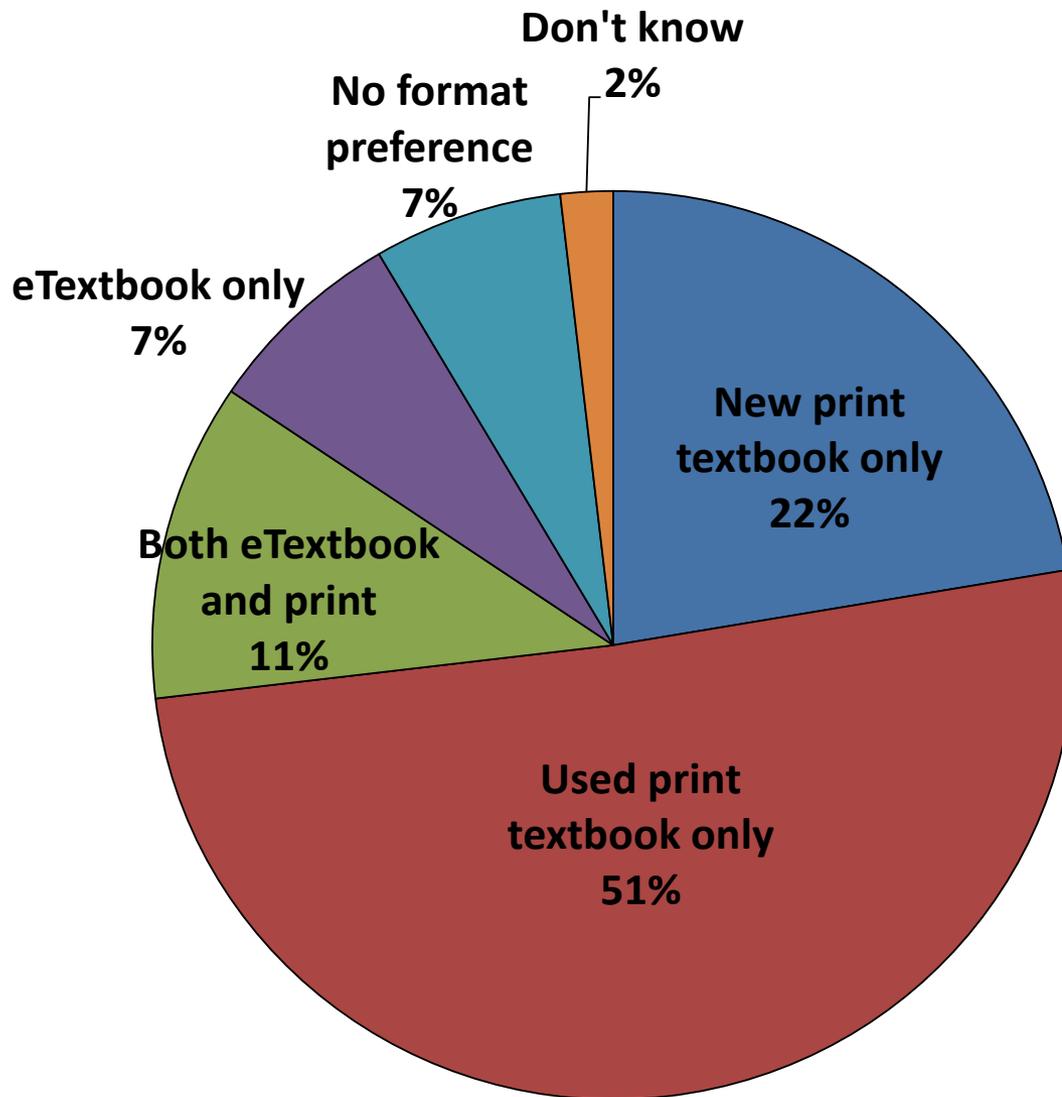




Textbook Format Preference

Summary of Findings

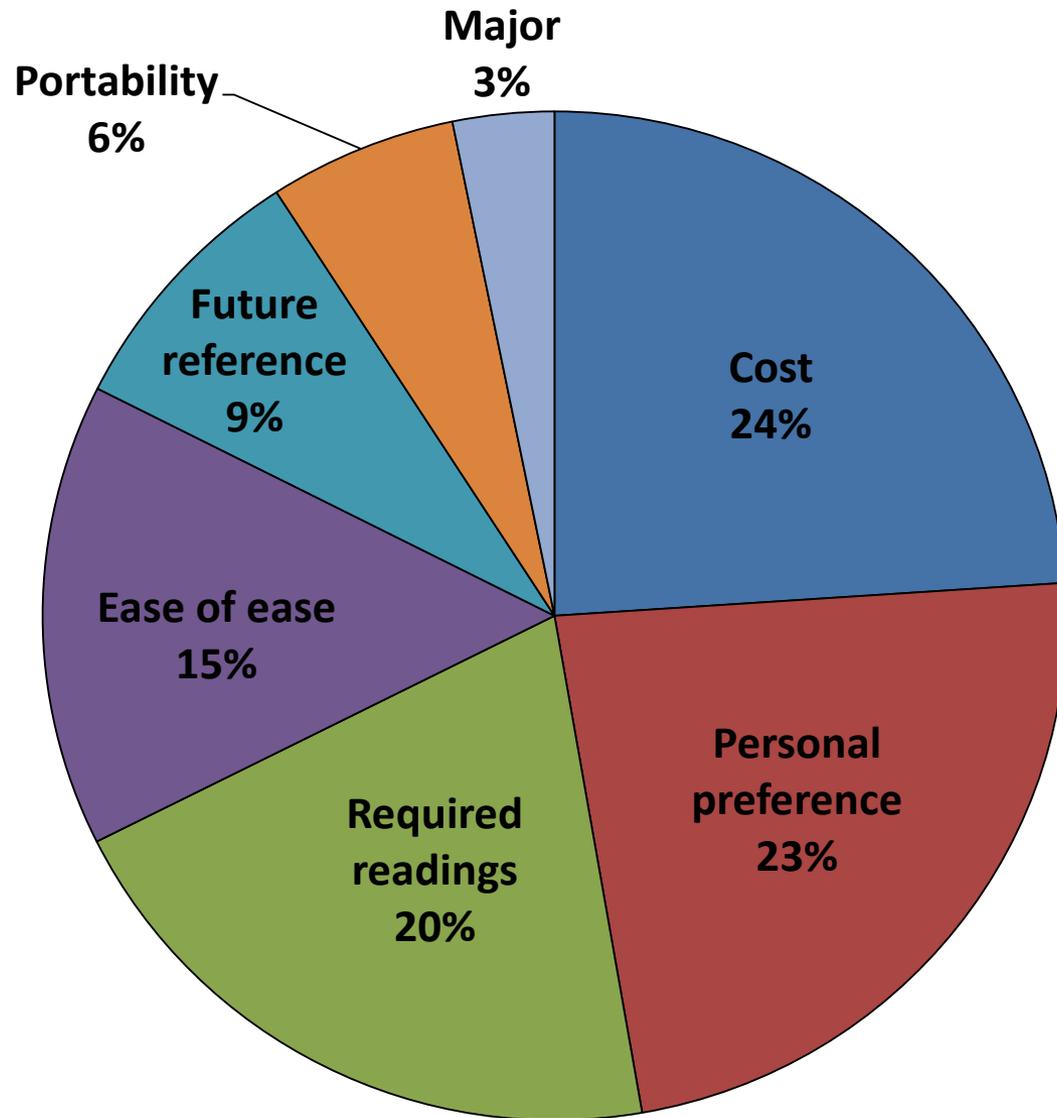
- Approximately 75% of students prefer print textbooks.
- This is consistent with other results from previously conducted student surveys at the University of Michigan.
- This also seems consistent with other empirical findings from existing literature that supports the argument of student preference for print textbooks.
- Preference for eText remains small, but is definitely growing, when compared to previous student surveys over the last 3 years.



What Influences Student's Textbook Format Choice?

Summary of Findings

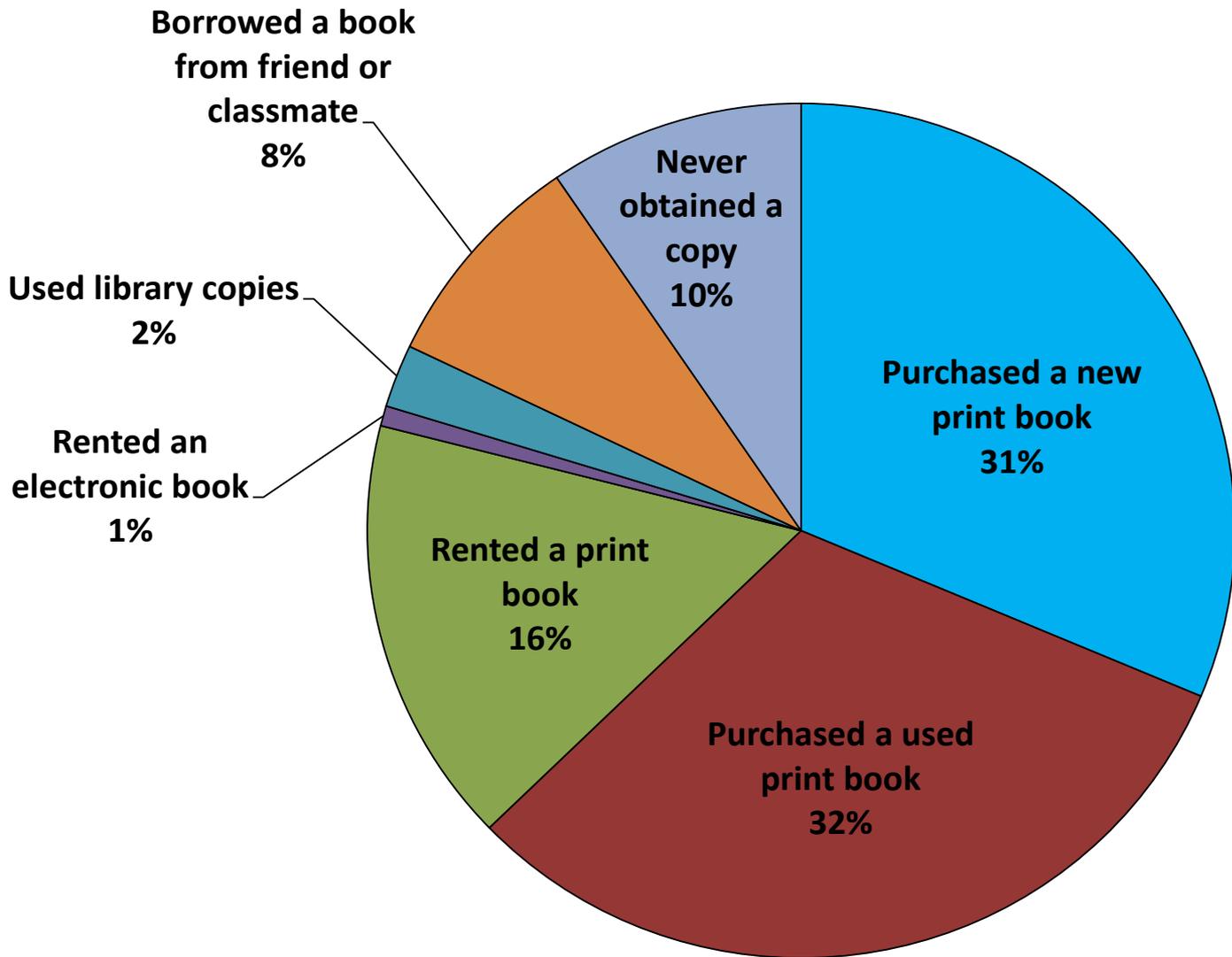
- There is no single strong factor that determines a student's choice for textbook format.
- Several equally important influencing factors include:
 - Textbook cost
 - Personal preference
 - Textbook as required vs. optional reading



How Do Students Obtain Copies of Textbooks?

Summary of Findings

- 63% of students reported that they purchase (new or used) print textbooks.
- 16% of students reported they rent print textbooks. This is a much higher percentage than initially expected.
- 10% of students reported they never obtain a copy of textbooks.
- Only 2% of students reported they use library copies.
- There is no statistically significant difference across disciplines (natural science/social science) in student's textbook buying patterns.
- There is a statistically significant difference across the types of textbooks (optional/required) in student's textbook buying patterns; i.e. more "required" books are bought than the "optional".
- There is a statistically significant difference across publication years in student's textbook buying patterns; i.e. recently published books are bought at a somewhat higher rate.



Student Distribution of Buying Patterns by Discipline

	PAID FOR TEXTBOOK				DID NOT PAY
	BUY		RENT		
	New Print Textbook	Used Print Textbook	Print Textbook	eTextbook	
All survey respondents	31%	32%	16%	1%	20%
Social Science	32%	25%	27%	1%	15%
Natural Science	30%	37%	9%	1%	23%
ANTHRBIO 161	40%	9%	33%	1%	17%
BIO 305	17%	40%	14%	0%	29%
CHEM 216	38%	29%	9%	0%	25%
MCDB 310	34%	41%	5%	2%	18%
POLSCI 160	39%	39%	14%	1%	8%
PSYCH 250	18%	28%	35%	1%	18%

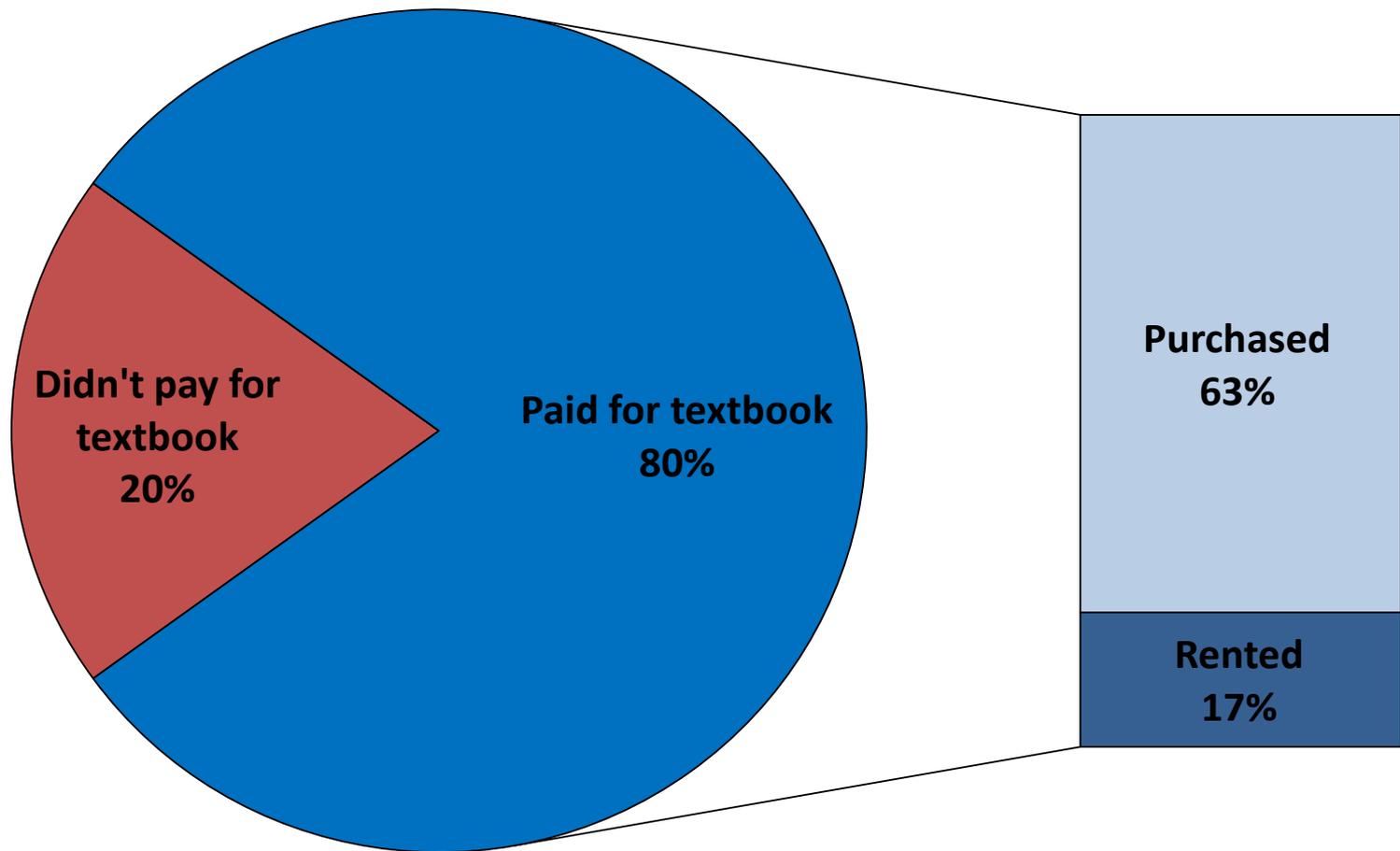
Student Distribution of Buying Patterns by Textbook Price and Publication Year

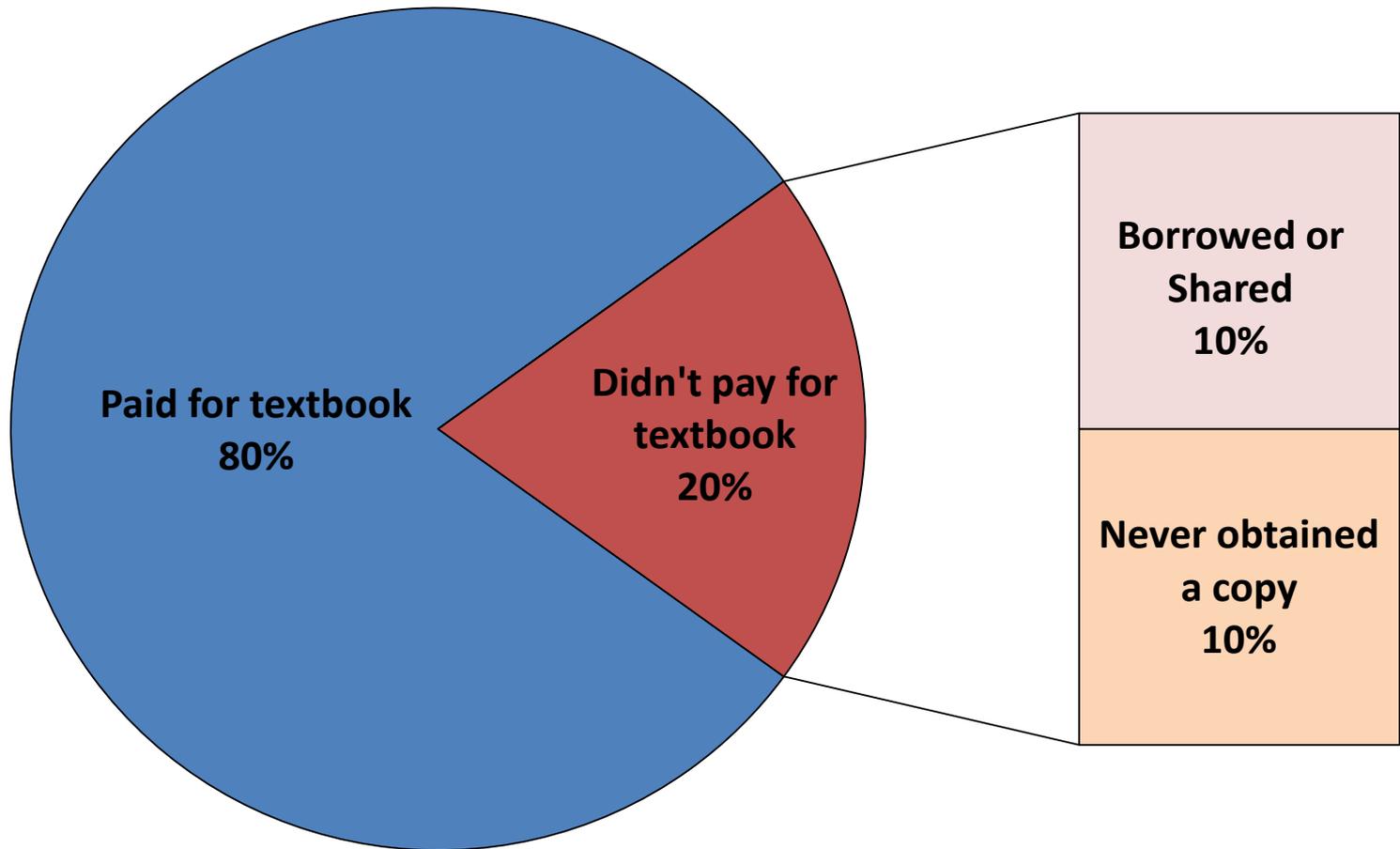
	PAID FOR TEXTBOOK				DID NOT PAY
	BUY		RENT		
	New Print Textbook	Used Print Textbook	Print Textbook	eTextbook	
All survey respondents	31%	32%	16%	1%	20%
CHEM 216 (total)	38%	29%	9%	NA	25%
CHEM 216 (Required lab manual, 2012, \$35)	66%	28%	1%	NA	5%
CHEM 216 (Required textbook, 2011, \$65)	39%	18%	13%	NA	30%
CHEM 216 (Optional textbook, 2004, \$220)	9%	40%	12%	NA	40%
POLSCI 160 (total)	39%	39%	14%	NA	8%
POLSCI 160 (Required textbook, 2012, \$54)	48%	31%	14%	NA	7%
POLSCI 160 (Required textbook, 2009, \$74)	30%	48%	14%	NA	9%

Textbook Buying Patterns: To Pay or Not to Pay for Textbooks?

Summary of Findings

- 80% of students reported that they paid part or full price for their textbooks.
- 20% of students reported that they paid nothing for their textbooks.
- 10% of students reported that they borrowed or shared the copy of textbooks.

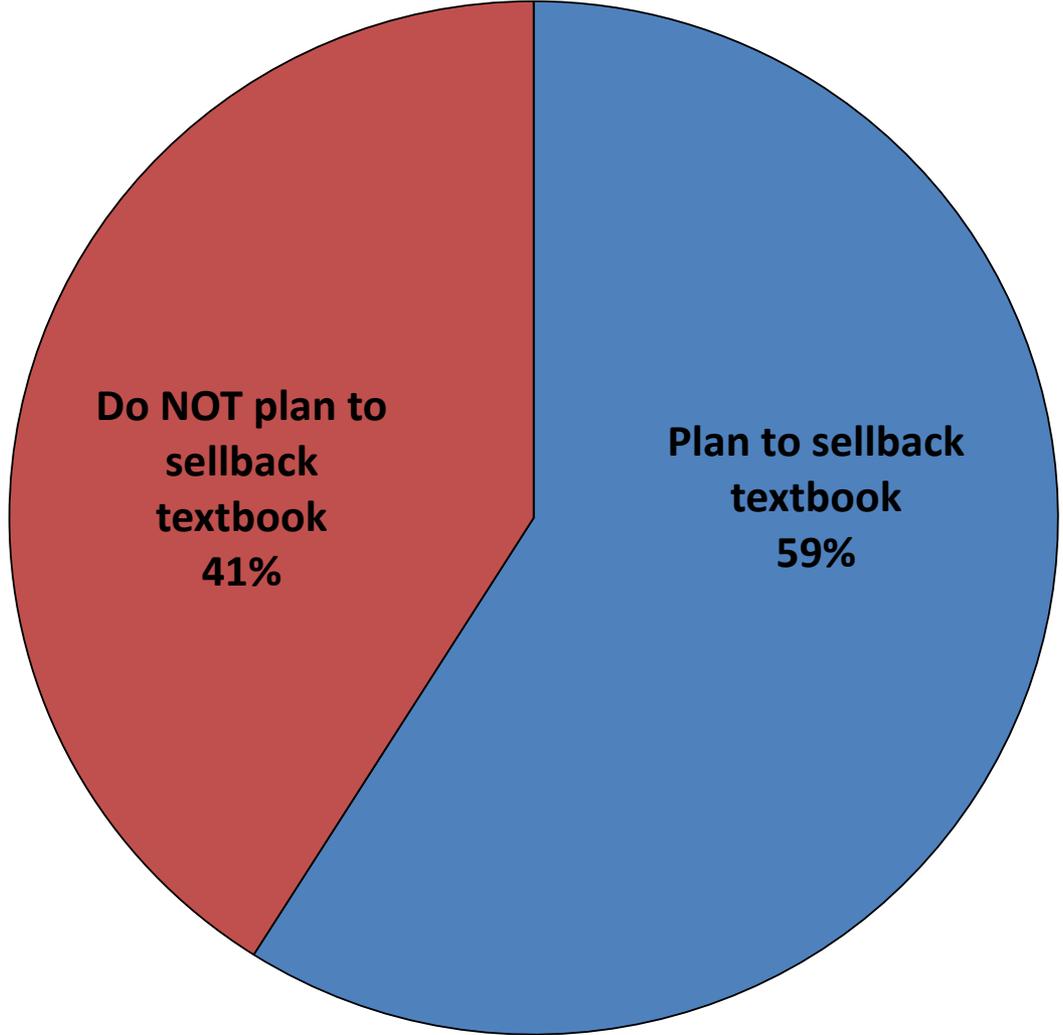


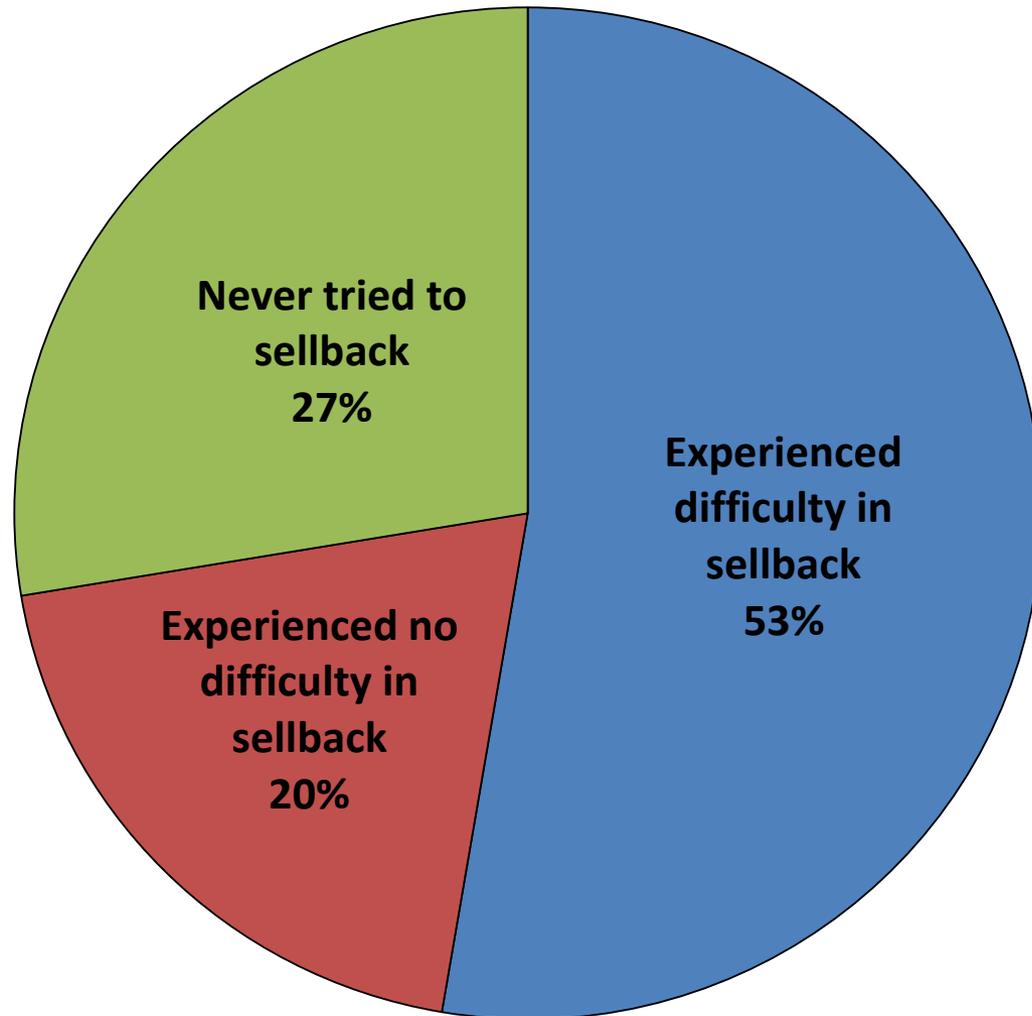


**To Sell or Not to Sell Back
(Print) Textbooks?**

Summary of Findings

- About 60% of students reported that they would planned to sellback their textbooks at the end of the semester.
- When asked about their previous experience selling back, more than a majority (53%) said they experienced difficulty in selling back.





What Influences Student's Textbook Purchasing Behavior?

Summary of Findings

- Senior year students are less likely to buy textbooks than underclass students.
- If students have an interest in selling back their textbooks, they are more likely to buy them.
- If students are more cost-conscious, they are less likely to buy textbooks.
- If textbooks are more expensive, students are less likely buy textbooks.
- Gender does not make any (statistically significant) difference in willingness to buy textbooks.
- Course subjects (Natural Science or Social Science) do not make any (statistically significant) difference in willingness to buy textbooks.

Logit model for student textbook purchasing

Explanatory Variable	Coefficient	Std. Err	z	p-value
Discipline (Natural Science/Social Science)	-0.326	0.209	-1.56	
Gender	-0.101	0.143	-0.70	
Undergraduate school year	-0.324	0.082	-3.93	<.01
Student's sellback interest	0.955	0.157	6.07	<.01
Student's textbook format preference	-0.192	0.056	-3.39	<.01
Student's cost-consciousness	-0.587	0.178	-3.28	<.01
Textbook price	0.005	0.001	-4.68	<.01
Constant	3.339	0.331	10.1	<.01

All tests of significance are one-tailed with robust standard errors.

Number of observations = 1248

Prob>chi2 = 0.000

Log likelihood = 554.9

Pseudo R2 = 0.094

Wald chi2 (7) = 91.29

**What are the Implications for
Textbook Cost-saving Analysis?**

Summary of Findings and Implications

- We prepared two different textbook price/cost charts as shown in the next slide.
- In the first set, we used data from Amazon, Chegg, and CourseSmart to identify a variation of textbook prices based on format and vender channel. Textbook prices vary between 43% and 88% of a list price.
- In the second set, we used survey data of student buying patterns at UM. Averages are calculated based on survey results. There is a variation between 51% and 91%.
- These two charts demonstrate how similar the two sets of numbers are, particularly for purchase of used books (\$65 from Amazon/Chegg data vs. \$64 from UM data).
- Based on survey results, 53% of list price (47% discount) is a breakeven point to generate student savings from the total textbook cost that UM students are currently paying for textbooks. Given the potential cost for the eTextbook delivery platform, the content discount rate needs to be higher than 47%.

Average Textbook Price/Cost Based on Two Sets of Data, (List price set at \$100)

Data source: U of M Textbook Data, Fall 2011, Large Enrollment Courses (N=141 textbooks)

BUY					RENT			
New Print Textbook		Used Print Textbook		Kindle Format	Print Textbook		eTextbook	
List Price	Amazon	Amazon	Chegg	Amazon	Amazon (trade-in)	Chegg (180 days)	CourseSmart (180 days)	Chegg (180 days)
\$100	\$77	\$66	\$64	\$56	\$42	\$44	\$55	\$61
\$88		\$65		\$56	\$43		\$58	

Data source: U of M Student Survey, Winter 2012 (N=1265 textbooks; Social Science 266, Natural Science 904)

	BUY			RENT	
	New Print Textbook	Used Print Textbook	Kindle Format	Print Textbook	eTextbook
All survey respondents	\$91	\$64	NA	\$51	\$55
Social Science	\$95	\$74	NA	\$55	\$65
Natural Science	\$84	\$60	NA	\$45	\$45

Average Textbook Price/Cost (% of list price) Based on Example Mix of Buying Patterns at UM

	Average for those who didn't pay for textbook	Average for those who paid for textbook	Average for total
All survey respondents	0% of list price	68% of list price	53% of list price
Social Science	0%	75%	66%
Natural Science	0%	68%	48%
CHEM 216 (Total)	0% of list price	62% of list price	48% of list price
CHEM 216 (Required lab manual, 2012, \$35)	0%	90%	86%
CHEM 216 (Required textbook, 2011, \$65)	0%	43%	30%
CHEM 216 (Optional textbook, 2004, \$220)	0%	46%	28%
POLSCI 160 (Total)	0% of list price	78% of list price	72% of list price
POLSCI 160 (Required textbook, 2012, \$54)	0%	76%	70%
POLSCI 160 (Required textbook, 2009, \$74)	0%	80%	74%

Student Savings and Breakeven Point

