

# Barnes and Noble Education

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Alma Investments

Nov 8<sup>th</sup>, 2018

# Investment Thesis

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## Why should you buy Barnes and Noble Education?

What is  
BNED?

What is Barnes and Noble Education?(Products, Geography, Customers, Industry, Form, Status)

Is it  
good?

Historical Financial Analysis

Future Performance

Is it  
Inexpensive?

Price to Book, Price to FCF

Valuation

Recommendation

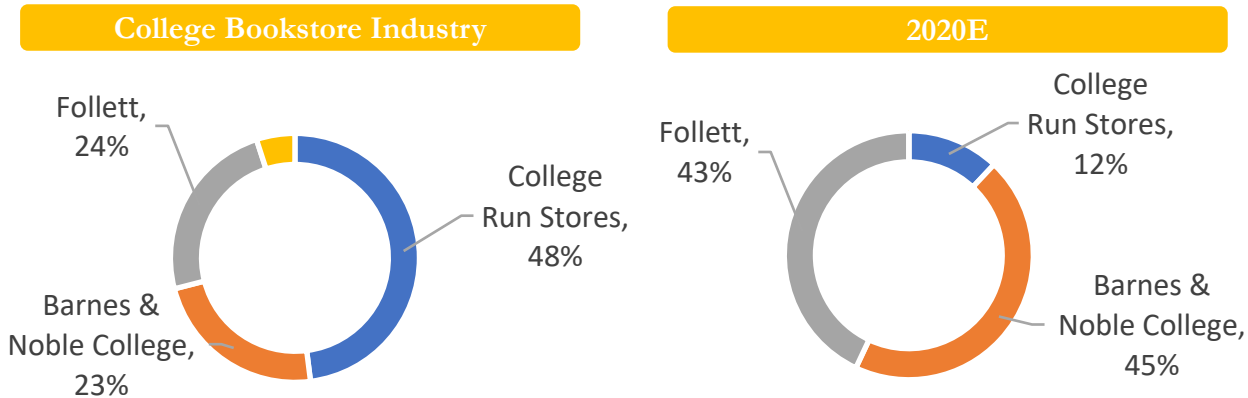
# Company Overview

## Understanding Barnes and Noble Education

### Products : What services does BNED offer?

- Barnes and Noble College ( 79% sales, 58.5% EBITDA) : Operates 768 college bookstores & eCommerce sites, selling 30% merchandise and 70% textbooks
- MBS (20.1% sales, 36.5% EBITDA): Direct and Wholesale segments
- MBS Direct Segment: Operates 676 virtual bookstores from K-12 to college
- MBS Wholesale: Sells new and used textbooks to 3500 physical bookstores & sells inventory management hardware and software to 430 college bookstore
- DSS(0.9% sales, 5.1% EBITDA) : Sells direct to student tutoring, writing, test prep
- Loudcloud : Online videos, activities, assessments which are custom for faculty
- First Day : Program to offer new college students all course materials on or before the first day of classes

### Industry : College Bookstore Industry (duopoly)



Source: Company Disclosures

### Customers : Who pays the company?

- BNC: Universities looking to outsource bookstores to refocus capital, take 7-12% of proceeds from BNED sales
- MBS: Bookstores looking for distributors and K-12 or college bookstores looking for a cheap online component
- DSS: College students looking for homework help, Studentbrands

### Form

- Vertically integrated corporation
- Owns distributor and stores, but not producers





### Status

- 2<sup>nd</sup> largest and fastest growing college bookstore operator
- Successfully operating spinoff of parent company

### Geography

- BNC operates solely in the United States, with stores in almost every state
- MBS sources books from publishers in the US and globally when needed
- Incorporated in Delaware for tax purposes

## Competitors

	<div> <div>Barnes and Noble College</div>  </div>	<div> <div>Follett</div>  </div>	<div> <div>Amazon</div>  </div>	<div> <div>Chegg</div>  </div>
Platform Description	<ul style="list-style-type: none"> <li>• Incorporated in 2015</li> <li>• Leading provider of educational products and services solutions through college campuses and e-commerce platforms</li> </ul>	<ul style="list-style-type: none"> <li>• Started in 1873</li> <li>• Provides a variety of educational products to schools, colleges, public libraries, and retailers through its subsidiaries</li> </ul>	<ul style="list-style-type: none"> <li>• Incorporated in 1996</li> <li>• World's leading online retailer of merchandise and content that it purchases for resale from vendors and those offered by third-party sellers.</li> </ul>	<ul style="list-style-type: none"> <li>• Incorporated in 2005</li> <li>• The Company helps students study for college admission exams, find the colleges, get grades and test scores while in school</li> </ul>
Strengths and Weaknesses	<ul style="list-style-type: none"> <li>• <b>Flexibility:</b> In a large part of the contracts won by Barnes and Noble Education, their flexibility in adapting to conditions has won them proposals over Follett</li> <li>• <b>Complete Vertical Integration:</b></li> <li>• Barnes and Noble Education uses its MBS segment to send its overstocked books from college bookstores. Furthermore, it uses both BNC and MBS to operate a virtual bookstore with physical merchandise</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Largest College Store Operator:</b> Follett operates over 900 college bookstores, making them the largest college bookstore operator in the world</li> <li>• <b>Diversified:</b> Follett is heavily involved in K-12 education, from offering bookstores to Learning Management systems</li> <li>• <b>Lack of Vertical Integration :</b> Although they do own a distributor of general library books, Follett doesn't own a fully integrated virtual college bookstore and distributor</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Cost Leadership:</b> This strategy has resulted in the company reaping the gains from this course of action and has helped its shareholders derive value from the company.</li> <li>• <b>Superior Logistics and Distribution:</b> The company has been able to actualize better customer fulfillment and this has resulted in Amazon deriving competitive advantage over its rivals.</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Skilled Workforce:</b> Chegg, Inc. is investing huge resources in training and development of its employees resulting in a workforce that is not only highly skilled but also motivated to achieve more.</li> <li>• <b>Limited Success Outside of Core Business:</b> Even though Chegg, Inc. is one of the leading organizations in its industry it has faced challenges in moving to other product segments with its present culture.</li> </ul>

## Historical Financial Performance

Key Drivers ( in millions of USD except per share data)		FY2013 Regional Revenue			
12 months ending	Calculation	2015	2016	2017	2018
Free Cash Flow	▪ Cash from Operation minus maintenance CAPEX	(31)	32	33	17
Operating Income	▪ Adjusted from 10-k	34	28	25	58
Book Value	▪ Total Assets – Total Liabilities	727	708	714	468
Tangible Book Value	▪ Book Value - Goodwill	453	427	384	419
Capital Employed	▪ Total Assets-Current Liabilities- Goodwill	519	504	638	660
Fully Diluted shares	▪ From 10-k	-	48.65	49.37	50.03
Key Ratios		FY2013 Regional Revenue			
12 months ending	Calculation	2015	2016	2017	2018
Liabilities to Equity	▪ Total liabilities/ Shareholders Equity	0.50	0.51	0.82	1.22
ROCE	▪ Operating income/ Capital Employed	6.47%	5.52%	3.91%	8.77%
FCFROCE	▪ Free Cash Flow/ Capital Employed	-5.92%	6.41%	5.22%	2.61%
ΔOI/FDS	▪ Change in operating income / fully diluted shares	-	-11.76%	-5.85%	65.86%
ΔFCF/FDS	▪ Change in free cash flow/ fully diluted shares	-	129.55%	2.07%	-32.15%
ΔBV/FDS	▪ Change in free cash flow/ fully diluted shares	-	-37.58%	10.78%	-491.18%
ΔTBV/FDS	▪ Change in tangible book value/ fully diluted shares	-	-51.65%	-87.57%	68.84%
Revenue Growth	▪ Growth in revenue	-	1.98%	3.67%	17.57%

# Future Performance

Breadth of Suppliers Broad	Breadth of Customers Broad	Customer Bargaining Power Low	Supplier Bargaining Power Low	Threat of Substitutes High	Threat of new Entrants Low
<ul style="list-style-type: none"><li>▪ Source from wide variety of domestic and international suppliers</li><li>▪ MBS accounts for 17% of supply, alongside 3 others for 42%</li></ul>	<ul style="list-style-type: none"><li>▪ No customer accounts for more than 10% of revenue, 94% renewal rate</li><li>▪ Unlikely for independent colleges to consolidate stores</li></ul>	<ul style="list-style-type: none"><li>▪ High number of customers</li><li>▪ Backwards integration is not profitable</li><li>▪ High switching cost</li></ul>	<ul style="list-style-type: none"><li>▪ Large amount of suppliers</li><li>▪ Forward integration impossible due to contracts</li><li>▪ Can source from many suppliers</li></ul>	<ul style="list-style-type: none"><li>▪ Can use direct substitutes, but high switching costs associated with switching</li><li>▪ Free content</li></ul>	<ul style="list-style-type: none"><li>▪ Market is a duopoly</li><li>▪ Hard to achieve economies of scale in industry</li><li>▪ Most contracts already won by Follett and BNED</li></ul>



**Barnes & Noble Education has an economic moat from its cost advantage and its switching cost advantage. BNED can run bookstores for a lower cost than independent bookstores, and contracts result in high switching costs**

- Market growth is expected to be high as college’s refocus their capital onto education in the face of declining enrolment, and outsource the rest to companies like BNED
- Economic moat results in high retention rate ( 94%) as well as top-line growth

# Shareholder Friendliness

## Stock-based Compensation

- Grant restricted stock ,restricted stock units, performance shares, and performance share units, which force management to act in shareholder interest.

## Executives

- Hold executives accountable : Past CEO left after poor stock performance due to MBS acquisition
- Pay executives fair salary for performance
- Largest owner is Barnes and Noble owner, high skin in the game
- No related party transactions or family hiring

## Spin-off

- Spin-off from parent company was done in interest of shareholders, as the new company can redeploy its own capital instead of being apart of BNC's capital deployment strategy.

## Share Repurchases & Dividends

- Repurchased shares after dip in price in 2017, no repurchases this year
- No dividends in the past or future

## Smart Acquisition Strategy

- Acquired MBS which generated 55million of EBITDA TTM, resulting in a 3.2x acquisition multiple
- Past acquisitions all build towards an all inclusive strategy

Michael P. Huseby : Chairman and CEO



- Mr. Huseby has more than 20 years of financial and executive experience, having served as a senior executive at Barnes & Noble, Inc. (including serving as CEO), Cablevision Systems Corporation, Charter Communications and AT&T Broadband.
- Appointed CEO in 2017

## Inexpensiveness

Key Drivers ( in millions of USD except per share data)		FY2013 Regional Revenue			
12 months ending	Calculation	2015	2016	2017	2018
<b>MCAP</b>	▪ Year end market cap/share price	-	437.6	484.2	272.59(Nov 2nd)
<b>EV</b>	▪ Enterprise Value( MCAP + Debt– Cash)	-	409.06	624.84	528.40
<b>MCAP/FCF</b>	▪ Price / FCF	-8.87	8.44	8.18	15.82
<b>MCAP/BV</b>	▪ Price/Book	0.38	0.38	0.38	0.58
<b>MCAP/TBV</b>	▪ Price/ Tangible Book value	0.60	0.64	0.71	0.65
<b>EV/OI</b>	▪ Enterprise value multiple of operating income	-	14.69	25.04	9.13

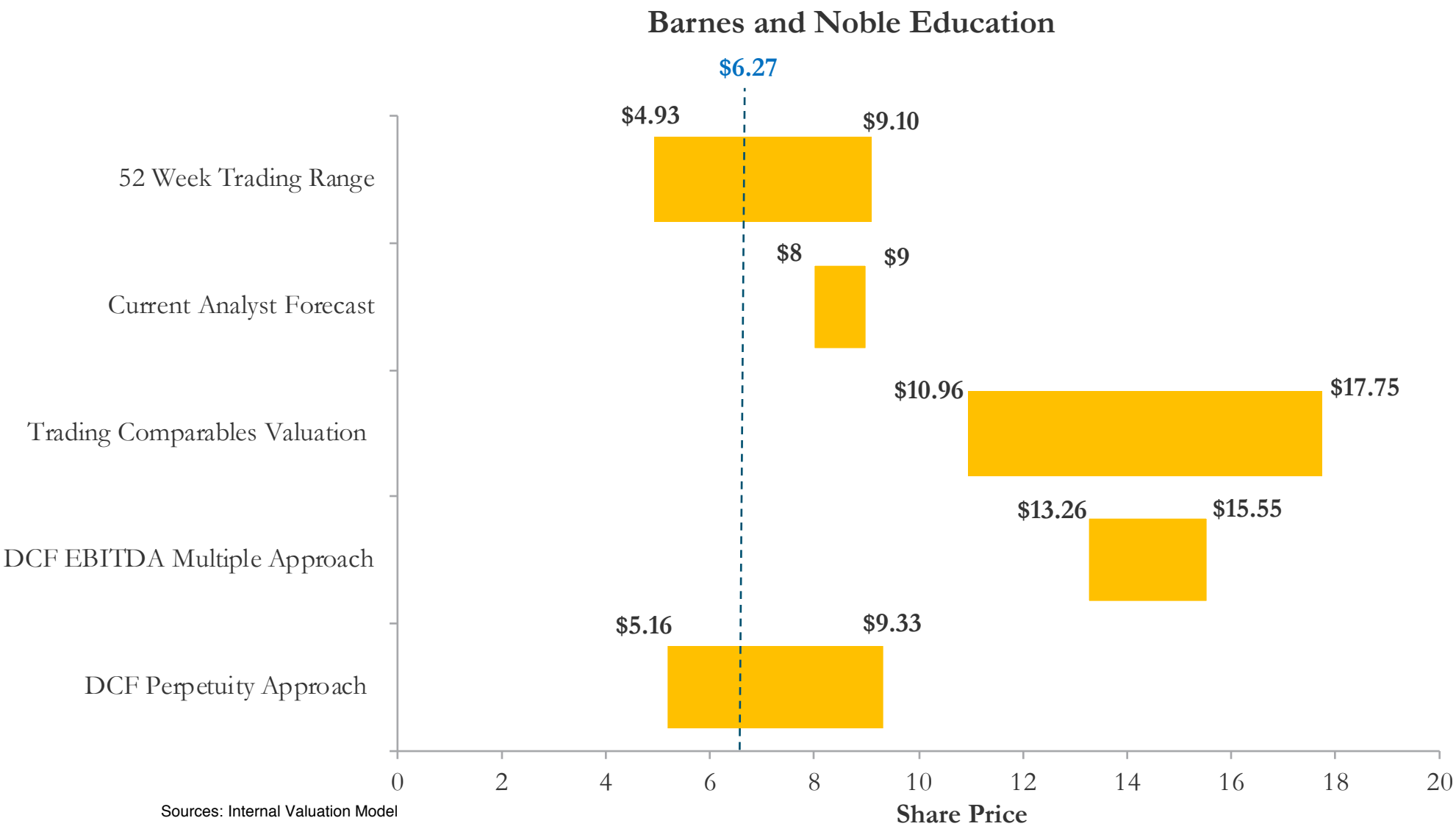


# Growth Opportunities

## Barnes And Noble Education

Advantages over publishers and competitors due to level of integration. College can have its bookstore, course materials, and other products all through one company

New Store Openings	Growth in College Enrollment
<ul style="list-style-type: none"><li>▪ The largest and most consistent driver of sales is opening of new stores</li><li>▪ New stores increased 19% from 2012</li><li>▪ New stores are taken mainly from the independent colleges looking to outsource</li></ul>	<ul style="list-style-type: none"><li>▪ Currently, college enrollment has been declining as less people need to attend college to find high paying jobs</li><li>▪ When the next recession hits as part of the economic cycle, we will see increased college enrollment as higher paying jobs become less available</li></ul>
Outsourcing of non-core college functions	DSS
<ul style="list-style-type: none"><li>▪ As a result of decreased enrollment, colleges are looking for ways to cut costs, and the continued outsourcing of non-core functions such as food and bookstores is a solution</li><li>▪ Funding for schools has also decreased, so outsourcing will continue to be important even if enrollment levels return</li></ul>	<ul style="list-style-type: none"><li>▪ Fastest growing segment, and estimated to grow faster because of all-inclusive focus on colleges</li><li>▪ High margins and possibly for better margins after acquisitions halt</li></ul>
First Day	Loudcloud
<ul style="list-style-type: none"><li>▪ Part of all inclusive model that provides all course content digitally on the first day of classes</li><li>▪ Partnered with major publishers and available in 100 schools</li></ul>	<ul style="list-style-type: none"><li>▪ Builds on the companies goal of becoming an all inclusive education provider through offering courseware and content for colleges using BNC.</li></ul>
Promversity	The Glossary and True Spirit
<ul style="list-style-type: none"><li>• Customized program that allows any organization to customize its apparel</li></ul>	<ul style="list-style-type: none"><li>• The Glossary sells makeup in one section of the bookstore</li><li>• True Spirit provides athletic gear to students</li></ul>



# Why the market is wrong about Barnes and Noble Education

## MBS Deal

- The market reacted negatively to the MBS deal as it was a retail bookstore purchased with debt. CEO retired after failure to explain deal to shareholders.
- However, it generated \$55 million in EBITDA and created synergies with the all inclusive strategy

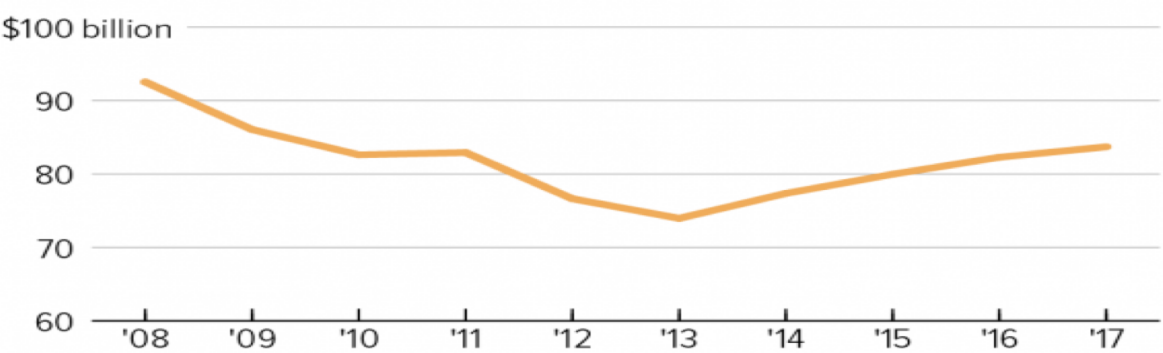
## DSS Deal

- Scared investors with new acquisition fueled using debt so soon after MBS deal
- DSS turned out to be a high EBITDA margin, high growth business and created synergies with other segments

## State Spending

### State Spending on Higher Education Well Below Pre-Recession Levels

Total state spending, adjusted for inflation

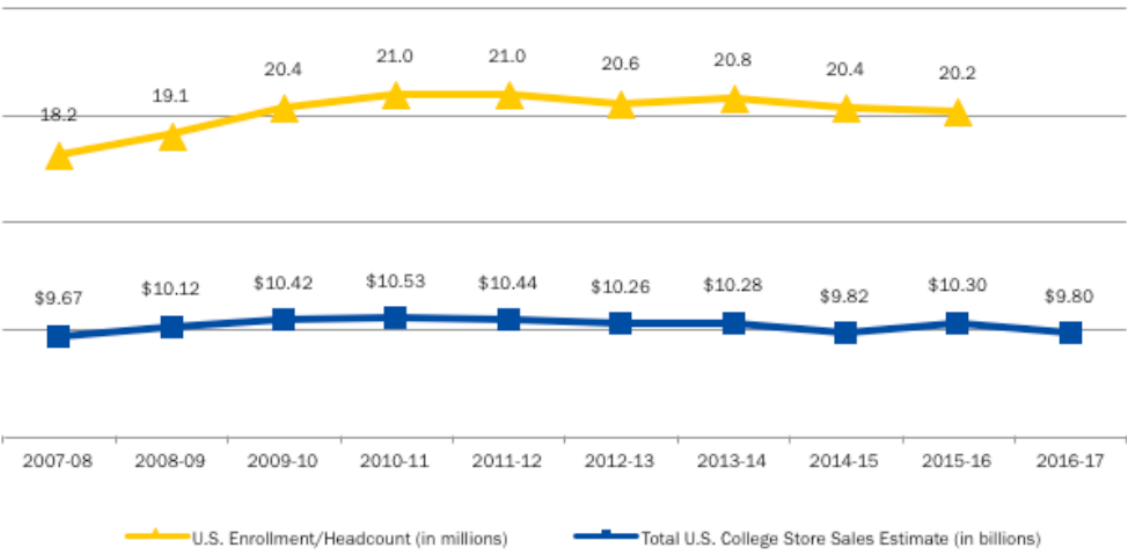


Source: CBPP analysis of data from Grapevine survey and State Higher Education Executive Officers Association, 2017

CENTER ON BUDGET AND POLICY PRIORITIES | CBPP.ORG

## Enrollment levels

### Trends in U.S. College Store Sales & Enrollment



## Decreased college enrollment and state spending

- The negative earnings and decline in sales is attributed to loss of competitiveness due to alternatives
- In reality, college enrolment levels are low, which is a cyclical issue that will eventually resolve itself
- Lower state spending also forces colleges to outsource

# Why the market is wrong about Barnes and Noble Education

## Fear of competition from online retailers

- Students are still buying most course materials from campus bookstores
- The real shift in the market occurred from students getting course materials for free (20% of students)
- Colleges are incentive to stop this behaviour by pushing sales to bookstores, which provide them 7-12% of profits
- DSS & MBS take advantage of decreased spending, as shift to online books are a lower sales but higher margin industry

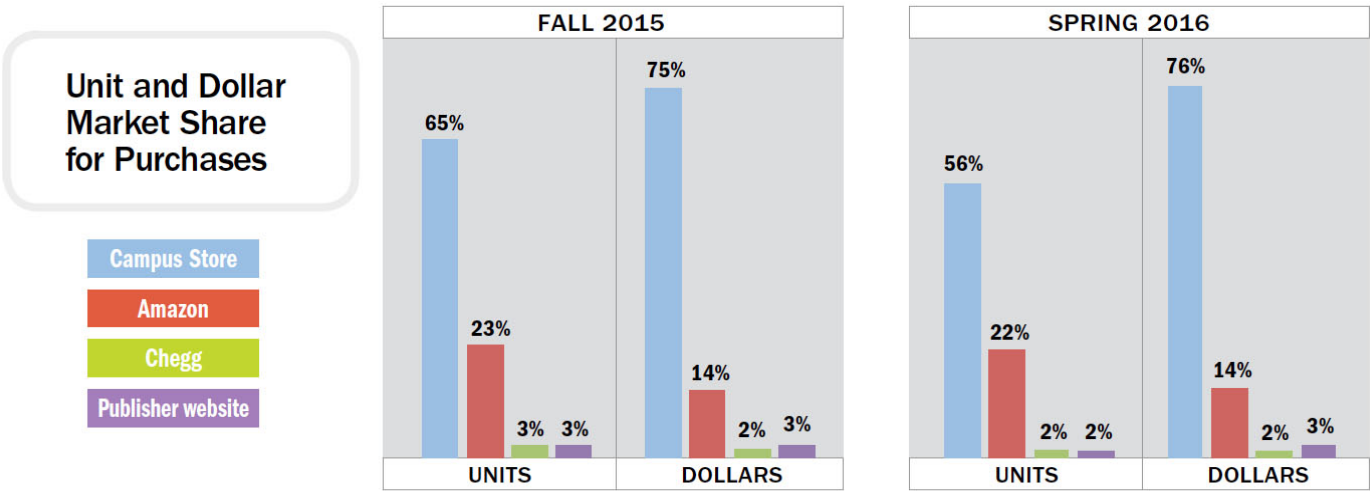
## Non-cash impairment cost

- Most recent earnings were impacted by the non-cash impairment loss of Yuzu, the companies predecessor to Loudcloud
- Yuzu costed 28 million per year and served the unpopular e-textbook segment
- Loudcloud provides a much better alternative to Yuzu

## Contracts will sustain growth and ROCE

- The market hasn't valued BNED's contracts, which ensure that current BNED customers stay on board
- These contracts allow BNED to maintain its competitive advantage, increase sales growth, and maintain a high ROCE

## Course Materials



<http://www.nacs.org/research/studentwatchfindings.aspx>

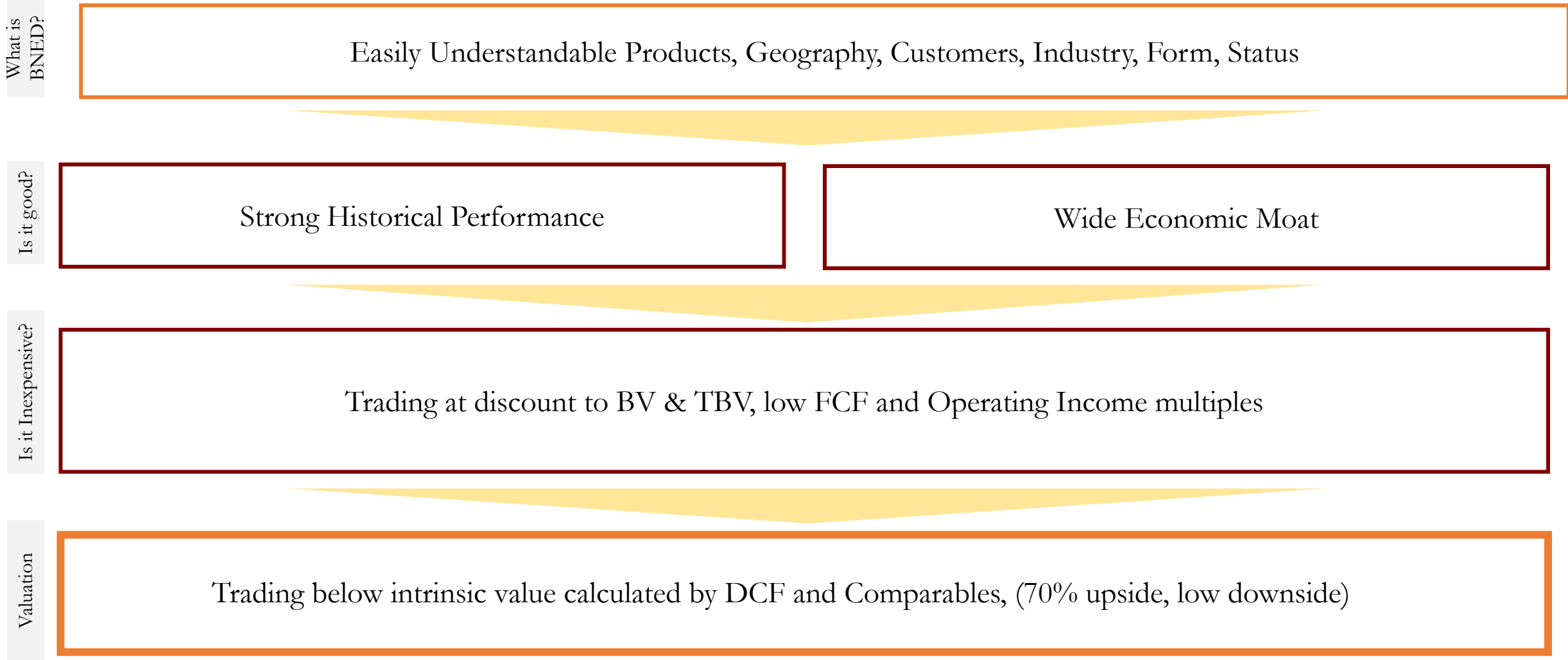
## Overall Spending on Materials

### OVERALL SPENDING ON COURSE MATERIALS DECREASED



# Summary

## Why should you buy BNED?



# Appendices

Valuation	Financial Statements
1: DCF	8: Balance Sheet
1a: DCF	9: Income as Reported
2. DCF Assumptions	10: Adjusted Income
3: Trading Comparables	11: Cash flow as Reported
4: Trading Comparables Assumptions	12: Cash Flow Standardized
5: Past Transactions	13: Multiples
6: Downside Risk	14: Liquidity
7: Key Events and Share Price Drivers	15: Working Capital
	16: Segment Data

## Appendix 1 : Discounted Cash Flows

BNED Unlevered Free Cash Flows							
Period (t)		2018A	2019P	2020P	2021P	2022P	2023P
g			7%	7%	7%	7%	7%
EBITDA		126	118	126	135	145	155
EBIT		61	44	51	55	59	63
Tax rate		8%	21%	21%	21%	21%	21%
EBIT (1-t)		56	35	40	43	46	50
D&A		66	70	75	80	86	92
NWC		17	16	16	16	16	15
Capital expenditures		(66)	(73)	(82)	(92)	(103)	(116)
Unlevered free cash flows (UFCF)		73	48	49	47	45	41
Discount rate (r)			8.45%	8.45%	8.45%	8.45%	8.45%
PV of UFCFs			44	42	37	32	27
Stage 1: Sum of present values		182					

## Appendix 1a : Discounted Cash Flows

Terminal value - growth in perpetuity approach			Terminal value - EBITDA multiple approach			
Long term growth rate		2%	EBITDA multiple			7.0x
2022 FCF x (1+g)		42	Terminal value in 2022			1,089
Terminal value in 2022		652	Stage 2: PV of TV			726
Stage 2: PV of TV		434				
Enterprise value (stage 1 + 2)		617	Enterprise value (stage 1 + 2)			908
Net debt			Shares outstanding			
Data as of:		4/28/2018	Basic shares outstanding			46.8
Commercial paper		0	Effect of dilutive securities			0
Short term Borrowings		100	Dilutive shares outstanding			46.8
Long term debt		<u>96</u>	Equity value			
Gross debt		196				
Cash and equivalents		16			Perpetuity	EBITDA
Short term marketable securities		0	Equity value		<u>approach</u>	<u>approach</u>
Long term marketable securities		<u>0</u>	Worst Case		\$ 9.33	\$15.55
Nonoperating assets		16			\$ 5.16	\$13.26
Net debt		180.3				



## Appendix 2 : DCF Assumptions

Category	Input Values		Comments
	Worst Case	Likely Case	
Sales Growth	Year 1-3: 0% Year 4-5:5%	Year 1-5: 7%	<ul style="list-style-type: none"> <li>▪ We expect enrollment levels to increase, so we used to historical growth for our most likely scenrio</li> <li>▪ In the worst case scenario, we used 5% growth to represent continued declines in enrollment</li> </ul>
Perpetuity Growth	1%	2%	<ul style="list-style-type: none"> <li>▪ Used 2% in line with inflation</li> </ul>
CAPEX	12.1%	12.1%	<ul style="list-style-type: none"> <li>▪ Used historical CAPEX figures</li> </ul>
EBITDA multiple	4.35x	7.04x	<ul style="list-style-type: none"> <li>▪ For the worst case scenario, we used Barnes and Noble’s EBITDA multiple</li> <li>▪ For the most likely scenario, we used the EBITDA multiple estimated by our comparable analysis</li> </ul>
Working Capital	-1.47%	-1.47%	<ul style="list-style-type: none"> <li>▪ Inline with analyst reports and historical numbers (average 3 year change)</li> <li>▪ Mostly due to changes in cash</li> </ul>
Effective Tax Rate	7.5%	21%	<ul style="list-style-type: none"> <li>• 7.5% was from operating loss and changes in tax rate from 35% to 21%</li> <li>• 21% is expected tax rate as stated on 10-K</li> </ul>

## Appendix 3: Trading Comparables

Company	Market	MCAP/EBITDA
<u>Name</u>	<u>Cap.</u> <sup>(2)</sup>	<u>2018A</u>

(all figures presented in USD millions, except per share figures or where noted)

### Barnes and Noble College

Barnes and Noble	489.22	4.35x
Indigo Books and Music	377.00	7.13x
Average		5.74x

### MBS Textbook Exchange

Barnes and Noble	489.22	4.35x
Indigo Books and Music	377.00	7.13x
Average		5.74x

### DSS Segment

Chegg	3070	170x (TTM)
Education Industry		10.2x
Multiple Used		10.2x

<u>Name</u>	<u>Value</u>	<u>EBITDA Multiple</u>
BNC : 87.5M EBITDA	502.2098	5.74x
MBS Textbook Exchange: 54.6M EDITDA	313.39	5.74x
DSS: 7.6M EBITDA	77.10	10.2x
Barnes and Noble Education	892.7M	7.04x

Source: Company Disclosures

## Appendix 4 : Comparables Assumptions

Category	Input Values		Comments
	Implied Valuation	Multiples	
<b>Barnes and Noble College</b>	502.2098 M	5.74x	<ul style="list-style-type: none"> <li>Barnes and Noble was used a comparable because it is also a retailer. However, it lacks the competitive advantage that BNC has. Regardless, we used the 4.33 MCAP/EBIDA</li> <li>Indigo sells much of the apparel that college bookstore would. Although BNC should have a higher valuation because of their contracts and competitive advantage, we used indigos 7.13 MCAP/EBIDA.</li> </ul>
<b>MBS</b>	313.39 M	5.74x	<ul style="list-style-type: none"> <li>Management guidance to decline due to increased cost discipline, increased efficiencies and a stronger focus on fewer products</li> </ul>
<b>DSS</b>	77.10M	10.2x	<ul style="list-style-type: none"> <li>Chegg is trading at 170x its TTM EBITDA, so using a 170x ratio would skew the valuation heavily, despite the two companies being very similar.</li> <li>Instead, we used the 10.2X figure from “ <a href="https://berkerynoyes.com/trends_educationfy2017/">https://berkerynoyes.com/trends_educationfy2017/</a> “, which is a median multiple for the education industry.</li> </ul>
<b>BNED</b>	892.7M 551.406M	7.04 (4.35x)	<ul style="list-style-type: none"> <li>For the most likely case, we combined the sum of the parts trading comparables</li> <li>For the worst case scenario, we assumed the company should be valued at least comparably to its predecessor, despite being a better run and more profitable company</li> </ul>

## Appendix 5: Past Transactions

Past Transactions	
March 9, 2016	Barnes & Noble Education Inc. announced the acquisition of LMS provider LoudCloud Systems for \$17.9 million in cash. LoudCloud provides a traditional LMS for general higher education and K-12 needs
Feb 28, 2017	Barnes & Noble Education Inc. announced that it has acquired MBS Textbook Exchange, LLC (“MBS”) for \$174.2 million in cash. Together, MBS and BNED will operate over 1,490 physical and virtual bookstores and serve more than 6 million students enrolled in higher education institutions..
Aug 4, 2017	Barnes & Noble Education Inc. announced today that it has completed the acquisition of Student Brands, a leading direct-to-student subscription-based writing skills services business, for \$58.5 million in cash.
Aug 21, 2018	Barnes & Noble Education Inc. today announced that it has acquired PaperRater.com (“PaperRater”), a leading website that offers students a suite of writing services that includes a plagiarism checker, writing revision tools and an AI-based auto-grading scoring system to help them improve multiple facets of their writing.
Comments	
The acquisition of MBS allows bookstores to send back inventories to MBS for wholesale. Some stores are now operated by both BNC and MBS, with BNC selling merchandise.	

# Appendix 6: Downside Risk

## EBIT Downside Valuation

- Using an EBIT multiple of 10x, we get a company value of \$241M, representing downside risk of 17.6%.

## Scenario Analysis

- The worst case scenario for the company is that revenue keeps shrinking, bringing down EBIT. We modeled for this in our DCF valuation, and despite pessimistic outputs, the value per share wasn't below the current value.

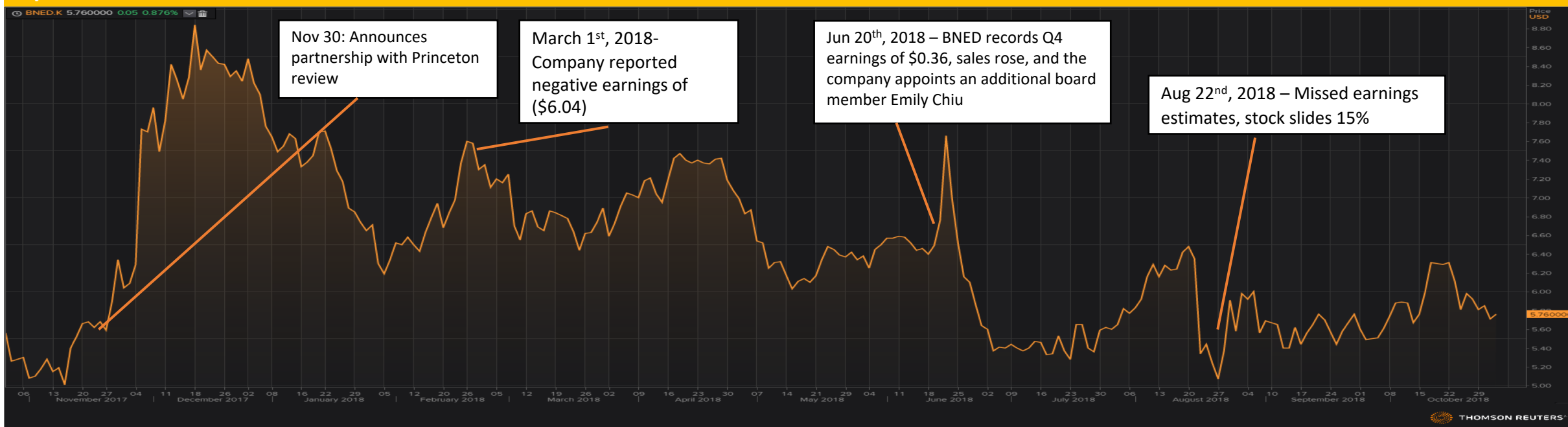
## Scenario B

- In our DCF, we assumed that revenue will shrink for a certain period and growth will be fueled by new store openings. In our terminal value, we assumed the trend in college enrollment will eventually reverse.

Downside Valuation	
Barnes and Noble Education (BNED)	
In Millions of USD except Per Share	2019
12 Months Ending	3/31/2019
EBIT	43.8
Multiple	10x
EBIT Multiple Value	438
Less Total Debt	196.4
Company Value	241.6
Weighted Average Diluted Shares	46.8
Per Share Value	5.17
Downside risk	17.60%

## Appendix 7: Key Events and Share Price Drivers

### Key Events & Share Price Drivers



Pre IPO: Even driven funds buy BKS on spin off news

IPO: Event driven funds pull out of both stocks on no news

November 30<sup>th</sup>, 2017 – Announces partnership with Princeton review

December 5<sup>th</sup>, 2017 – BNED reports 2018 Q2 earnings of \$1.03, sales rose 15.1%, and beats earnings estimates

December 7<sup>th</sup>, 2017 – KCTCS Colleges and Barnes and Noble Education partner

Feb 8<sup>th</sup>, 2018 – BNED announces partnership with McGraw Hill education E content on campuses served by BNED

March 1<sup>st</sup>, 2018 – BNED reports Q3 earnings of (\$6.04)

March 5<sup>th</sup>, 2018 – Analysts estimate a loss of \$0.02 per share for Q4

Jun 20<sup>th</sup>, 2018 – BNED records Q4 earnings of \$0.36, sales rose, and the company appoints an additional board member Emily Chiu

July 15<sup>th</sup>, 2018 – BNED appoints Jonathan Shar as Senior VP

Aug 21<sup>st</sup>, 2018 – BNED expands partnership with OpenStax

Aug 22<sup>nd</sup>, 2018 – Missed earnings estimates, stock slides 15%

## Appendix 8 : Balance Sheet

In Millions of USD except Per Share	FY 2015	FY 2016	FY 2017	FY 2018
12 Months Ending	05/02/2015	04/29/2016	04/29/2017	04/28/2018
Balance Sheet				
Current Assets				
Cash and Equivalents	44.8	28.6	19.0	16.1
Accounts Receivable - Trade	76.6	50.9	86.0	100.1
Inventories	345.0	360.5	486.9	493.9
Prepaid Expenses and Other	4.6	6.5	10.7	9.2
Total Current Assets	471.0	446.5	602.6	619.4
Noncurrent Assets				
Property Plant & Equipment - Net	107.6	111.2	116.6	111.3
Other Intangible Assets	198.2	199.7	209.9	219.1
Goodwill	274.1	280.9	329.5	49.3
Other Noncurrent Assets	39.9	33.5	41.2	40.1
Total Assets	1,090.7	1,071.7	1,299.8	1,039.2
Current Liabilities				
Accounts Payable - Trade	155.2	152.2	192.7	187.9
Short-Term Borrowings	—	—	100.0	100.0
Accrued Expenses	97.6	105.9	120.5	125.6
Total Current Liabilities	252.8	258.1	413.2	413.5
Non Current Liabilities				
Long Term Debt	—	—	59.6	96.4
Deferred Income Taxes (Liabilities)	41.7	29.9	16.9	2.1
Other Noncurrent Liabilities	69.5	75.4	96.4	59.3
Total Liabilities	364.0	363.3	586.1	571.2
Stockholder Equity				
Preferred Stock	0.0	0.0	0.0	0.0
Common Stock	0.0	0.5	0.5	0.5
Additional Paid In Capital	0.0	699.5	708.9	717.3
Treasury Stock (Amount)	0.0	-18.6	-28.0	-29.7
Accumulated Other Comprehensive Income	0.0	0.0	—	—
Retained Earnings (Accumulated Deficit)	0.0	27.0	32.4	-220.2
Other Equity	726.7	0.0	0.0	0.0
Shares Outstanding	—	46.8	46.5	46.9
Par Value	—	0.01	0.01	0.01
Shares Issued	—	48.6	49.4	50.0
Total Shareholders Equity	726.7	708.4	713.7	468.0
Shares Authorized	—	200.0	200.0	200.0
Total Liabilities and Shareholders Equity	1,090.7	1,071.7	1,299.8	1,039.2

## Appendix 9 : Income as Reported

In Millions of USD except Per Share	FY 2015	FY 2016	FY 2017	FY 2018
12 Months Ending	05/02/2015	04/29/2016	04/29/2017	04/28/2018
Income Statement				
Revenues				
Product Revenue	1,545.0	1,579.6	1,641.9	1,984.5
Rental Revenue	228.0	228.4	232.5	219.1
Total Revenue	1,773.0	1,808.0	1,874.4	2,203.6
Operating Expenses				
Cost of Goods Sold	1,198.3	1,225.0	1,281.0	1,522.7
Selling General and Administrative Expenses	359.5	375.2	380.8	433.7
Depreciation and Amortization	50.5	52.7	53.3	65.6
Write-Down/Impairment of Assets	—	12.0	—	—
Restructuring Charges	—	8.8	1.8	5.4
Merger/Acquisition Expense	—	—	9.6	2.0
Gross Profit	443.6	453.3	459.1	557.2
Operating Income	33.6	4.6	13.6	-262.7
Impairment of Goodwill	—	—	0.0	313.1
Other Cost of Revenues	131.1	129.7	134.3	123.7
Total Cost of Revenues	1,329.4	1,354.7	1,415.3	1,646.4
Non-Operating Expenses				
Interest Expense - Net	0.2	1.9	3.5	10.3
Income Tax Expense (Benefit)	14.2	2.7	4.7	-20.4
Income Before Income Taxes	33.4	2.8	10.1	-273.0
Earnings				
Basic EPS	0.33	0.00	0.12	-5.40
Weighted Avg. Shares - Basic	38.5	46.2	46.3	46.8
Diluted EPS	0.33	0.00	0.11	-5.40
Weighted Avg. Shares - Diluted	38.5	46.5	46.8	46.8
Cumulative Net Income	19.1	0.1	5.4	-252.6
Net Income	19.1	0.1	5.4	-252.6



## Appendix 10 : Income Adjusted

In Millions of USD except Per Share	FY 2015	FY 2016	FY 2017	FY 2018	Last 12M	FY 2019 Est	FY 2020 Est
12 Months Ending	05/02/2015	04/29/2016	04/29/2017	04/28/2018	07/28/2018	04/30/2019	04/30/2020
Revenue	1,773.0	1,808.0	1,874.4	2,203.6	2,185.4	2,111.0	2,113.0
+ Sales & Services Revenue	1,773.0	1,808.0	1,874.4	2,203.6	2,116.4		
- Cost of Revenue	1,329.4	1,354.7	1,415.3	1,646.4	1,627.4		
+ Cost of Goods & Services	1,329.4	1,354.7	1,415.3	1,646.4	1,627.4		
Gross Profit	443.6	453.3	459.1	557.2	558.0	563.6	566.3
+ Other Operating Income	0.0	0.0	0.0	0.0	0.0		
- Operating Expenses	410.0	425.5	434.1	499.3	499.5		
+ Selling, General & Admin	359.5	375.2	380.8	433.7	432.4		
+ Research & Development	0.0	0.0	0.0	0.0			
+ Depreciation & Amortization	50.5	52.7	53.3	65.6	67.1		
+ Other Operating Expense	0.0	-2.4	0.0	0.0	0.0		
Operating Income (Loss)	33.6	27.8	25.0	57.9	58.5	43.8	38.3
- Non-Operating (Income) Loss	0.2	1.9	3.5	10.3	10.8		
+ Interest Expense, Net	0.2	1.9	3.5	10.3	10.8		
+ Foreign Exch (Gain) Loss	0.0	0.0	0.0	0.0			
+ Other Non-Op (Income) Loss	0.0	0.0	0.0	0.0	0.0		
Pretax Income (Loss), Adjusted	33.4	26.0	21.5	47.6	47.8	35.8	32.3
- Abnormal Losses (Gains)	0.0	23.2	11.4	320.6	314.8		
+ Merger/Acquisition Expense	—	2.4	9.6	2.0			
+ Asset Write-Down	—	12.0	—	—			
+ Impairment of Goodwill	—	—	—	313.1			
+ Restructuring	—	8.8	1.8	5.4			
Pretax Income (Loss), GAAP	33.4	2.8	10.1	-273.0	-267.0	35.8	32.3
- Income Tax Expense (Benefit)	14.2	2.7	4.7	-20.4	-10.6		
+ Current Income Tax	25.6	14.8	16.7	-5.7			
+ Deferred Income Tax	-11.3	-12.1	-12.0	-14.8			
Income (Loss) from Cont Ops	19.1	0.1	5.4	-252.6	-256.4	25.0	23.2

Source: Company Disclosures

## Appendix 11 : Cash Flow – As Reported

In Millions of USD except Per Share	FY 2015	FY 2016	FY 2017	FY 2018
12 Months Ending	05/02/2015	04/29/2016	04/29/2017	04/28/2018
Cash Flow				
Cash From Operating Activities				
Net Income - CF	19.1	0.1	5.4	-252.6
Depreciation And Amortization - CF	50.5	52.7	53.3	65.6
Deferred Income Taxes - CF	-11.3	-11.9	-12.0	-14.8
Stock Based Compensation	4.7	6.7	9.4	8.5
Net Change In Working Capital	-53.7	17.1	-3.1	-24.5
Impairments	0.0	12.0	0.0	313.1
Change In Other Liabilities	8.3	5.9	14.2	-36.8
Total Cash Flows From Operations	17.7	83.1	68.0	60.0
Amortization Of Financing Costs - CF	0.0	0.5	0.8	1.5
Cash From Investing Activities				
Capital Expenditures	-48.5	-50.8	-34.7	-42.8
Acquisition of Business	0.0	-17.8	-186.7	-58.3
Other Investing Activities	-9.7	-0.1	-3.0	1.0
Total Cash Flows From Investing	-58.2	-68.7	-224.4	-100.0
Cash from Financing Activities				
Debt Financing/Issuance Costs	0.0	-3.3	-2.9	0.0
Other Financing Activities	-46.8	-6.4	0.0	0.0
Net Change In Cash	-87.3	-14.0	-9.2	-4.8
Purchase of Treasury Stock	0.0	-18.6	-9.4	-1.6
Cash and Cash Equivalents (End of Period)	44.8	30.9	21.7	16.9
Cash and Cash Equivalents (Beg of Period)	132.1	44.8	30.9	21.7
Decrease In Borrowings	0.0	-60.6	-153.1	-637.7
Increase In Borrowings	0.0	60.6	312.7	674.5
Total Cash Flows From Financing	-46.8	-28.3	147.3	35.2
Reference Items				
Change in Inventories	-22.6	-15.5	2.0	-7.1
Change in Accounts Receivable	-37.6	25.7	-6.4	-13.7
Change in Prepaid Expenses	-0.5	-2.2	-2.1	0.0
Change in Accts Payable & Accrued Expenses	7.0	9.1	3.3	-3.7
Net Change In Working Capital	-53.7	17.1	-3.1	-24.5
Cash Paid For Taxes	25.2	13.9	1.5	25.5
Cash Paid For Interest	0.2	1.1	2.1	8.0

## Appendix 12 : Cash Flow Standardized

In Millions of USD except Per Share	FY 2015	FY 2016	FY 2017	FY 2018	Last 12M
12 Months Ending	05/02/2015	04/29/2016	04/29/2017	04/28/2018	07/28/2018
Cash from Operating Activities					
+ Net Income	19.1	0.1	5.4	-252.6	-256.4
+ Depreciation & Amortization	50.5	52.7	53.3	65.6	67.1
+ Non-Cash Items	1.7	13.2	12.4	271.5	
+ Stock-Based Compensation	4.7	6.7	9.4	8.5	8.8
+ Deferred Income Taxes	-11.3	-11.9	-12.0	-14.8	-16.6
+ Other Non-Cash Adj	8.3	18.4	15.0	277.8	
+ Chg in Non-Cash Work Cap	-53.7	17.1	-3.1	-24.5	9.0
+ (Inc) Dec in Accts Receiv	-37.6	25.7	-6.4	-13.7	13.0
+ (Inc) Dec in Inventories	-22.6	-15.5	2.0	-7.1	48.6
+ Inc (Dec) in Other	6.5	6.9	1.2	-3.8	
+ Net Cash From Disc Ops	0.0	0.0	0.0	0.0	0.0
Cash from Operating Activities	17.7	83.1	68.0	60.0	88.7
Cash from Investing Activities					
+ Change in Fixed & Intang	-48.5	-50.8	-34.7	-42.8	-43.2
+ Disp in Fixed & Intang	0.0	0.0	0.0	0.0	0.0
+ Disp of Fixed Prod Assets	0.0	0.0	0.0	0.0	0.0
+ Disp of Intangible Assets	0.0	0.0	0.0	0.0	0.0
+ Acq of Fixed & Intang	-48.5	-50.8	-34.7	-42.8	-43.2
+ Acq of Fixed Prod Assets	-48.5	-50.8	-34.7	-42.8	-43.2
+ Acq of Intangible Assets	0.0	0.0	0.0	0.0	0.0
+ Net Change in LT Investment	0.0	0.0	0.0	0.0	
+ Dec in LT Investment	0.0	0.0	0.0	0.0	0.0
+ Inc in LT Investment	0.0	0.0	0.0	0.0	0.0
+ Net Cash From Acq & Div	0.0	-17.8	-186.7	-58.3	-58.3
+ Cash from Divestitures	0.0	0.0	0.0	0.0	0.0
+ Cash for Acq of Subs	0.0	-17.8	-186.7	-58.3	-58.3
+ Cash for JVs	0.0	0.0	0.0	0.0	0.0
+ Other Investing Activities	-9.7	-0.1	-3.0	1.0	1.4
+ Net Cash From Disc Ops	—	0.0	0.0	0.0	0.0
Cash from Investing Activities	-58.2	-68.7	-224.4	-100.0	-100.0
Cash from Financing Activities					
+ Dividends Paid	0.0	0.0	0.0	0.0	0.0
+ Cash From (Repayment) Debt	0.0	0.0	159.6	36.8	
+ Cash From (Repay) ST Debt	0.0	0.0	—	—	
+ Cash From LT Debt	0.0	0.0	—	—	
+ Repayments of LT Debt	0.0	0.0	—	—	
+ Cash (Repurchase) of Equity	0.0	-18.6	-9.4	-1.6	
+ Increase in Capital Stock	0.0	0.0	0.0	0.0	0.0
+ Decrease in Capital Stock	0.0	-18.6	-9.4	-1.6	-1.6
+ Other Financing Activities	-46.8	-9.7	-2.9	0.0	0.0
+ Net Cash From Disc Ops	0.0	0.0	0.0	0.0	0.0
Cash from Financing Activities	-46.8	-28.3	147.3	35.2	
Effect of Foreign Exchange Rates	0.0	0.0	0.0	0.0	0.0
Net Changes in Cash	-87.3	-14.0	-9.2	-4.8	-2.9
Cash Paid for Taxes	25.2	13.9	1.5	25.5	
Cash Paid for Interest	0.2	1.1	2.1	8.0	

Source: Company Disclosures

## Appendix 13 : Multiples

InA4:H24 Millions of USD except Per Share	FY 2016	FY 2017	FY 2018	Current	FY 2019 Est	FY 2020 Est	InA4:H24 Millions of USD except Per Share	FY 2016	FY 2017	FY 2018	Current	FY 2019 Est	FY 2020 Est
12 Months Ending	04/29/2016	04/29/2017	04/28/2018	10/26/2018	04/30/2019	04/30/2020	12 Months Ending	04/29/2016	04/29/2017	04/28/2018	10/26/2018	04/30/2019	04/30/2020
P/E	28.29	40.13	6.04	5.94	10.68	9.65	P/Cash Flow	5.21	7.09	5.78	3.12		
Average	35.07	31.34	28.73				Average	25.03	5.77	5.10			
High	46.27	40.13	42.41				High	33.13	7.14	7.49			
Low	26.36	25.90	6.04				Low	5.21	4.77	3.41			
							P/Free Cash Flow	13.40	14.47	20.13			
							Average	13.40	14.83	10.43			
							High	13.40	18.37	20.13			
							Low	13.40	12.27	6.97			
P/Book	0.62	0.68	0.74	0.65			EV/Sales	0.23	0.33	0.24	0.23	0.24	0.24
Average	0.62	0.68	0.49				Average	0.29	0.25	0.26			
High	0.62	0.85	0.74				High	0.39	0.33	0.35			
Low	0.62	0.57	0.33				Low	0.21	0.21	0.20			
							EV/EBITDA	7.14	9.34	—		4.22	4.18
							Average	6.10	7.89	7.32			
							High	8.22	9.86	9.74			
							Low	4.43	6.54	5.59			
P/Tangible Book	1.92	2.78	1.74	1.67			EV/EBIT	88.48	46.10	—		11.36	12.99
Average	1.92	2.13	1.99				Average	15.65	97.60	36.10			
High	1.92	2.78	2.93				High	89.79	122.25	48.07			
Low	1.92	1.76	1.34				Low	11.11	46.04	27.57			
							Price/Share	9.36	10.41	7.42	5.98		
							High	15.98	13.15	11.12	6.07		
P/Sales	0.24	0.26	0.16	0.13	0.13	0.13	Low	8.15	8.50	4.99	5.82		
Average	0.25	0.26	0.18				Enterprise Value	409.1	624.8	528.4	497.5		
High	0.35	0.34	0.27				Average	511.8	452.8	489.5			
Low	0.18	0.22	0.12				High	691.2	624.1	651.5			
							Low	372.8	374.6	373.7			

## Appendix 14 : Liquidity

In Millions of USD except Per Share	FY 2015	FY 2016	FY 2017	FY 2018
12 Months Ending	05/02/2015	04/29/2016	04/29/2017	04/28/2018
Cash Ratio	0.18	0.11	0.05	0.04
Current Ratio	1.86	1.73	1.46	1.50
Quick Ratio	0.48	0.31	0.25	0.28
CFO/Avg Current Liab	—	0.33	0.20	0.15
Common Equity/Total Assets	66.63	66.10	54.91	45.03
Long-Term Debt/Equity	0.00	0.00	8.35	20.60
Long-Term Debt/Capital	0.00	0.00	6.82	14.51
Long-Term Debt/Total Assets	0.00	0.00	4.59	9.28
Total Debt/Equity	0.00	0.00	22.36	41.97
Total Debt/Capital	0.00	0.00	18.28	29.56
Total Debt/Total Assets	0.00	0.00	12.28	18.90
CFO/Total Liabilities	4.87	22.87	11.60	10.51
CFO/CapEx	0.37	1.64	1.96	1.40
Altman's Z-Score	—	4.26	3.38	2.02
Total Line of Credit	—	400.0	400.0	96.4
Total Available Line Of Credit	—	396.4	396.4	91.6
Total Credit Lines Drawn	—	3.6	3.6	4.8

Source: Company Disclosures

## Appendix 15 : Working Capital

In Millions of USD except Per Share	FY 2015	FY 2016	FY 2017	FY 2018
12 Months Ending	05/02/2015	04/29/2016	04/29/2017	04/28/2018
Accounts Receivable Turnover	—	28.37	27.37	23.68
Days Sales Outstanding	—	12.80	13.34	15.37
Inventory Turnover	—	3.84	3.34	3.36
Days Inventory Outstanding	—	94.52	109.27	108.43
Accounts Payable Turnover	—	8.92	8.94	8.69
Accounts Payable Turnover Days	—	40.72	40.83	41.90
Cash Conversion Cycle	—	66.60	81.78	81.90
Inventory to Cash Days	—	107.32	122.61	123.80
Total Inventory	345.0	360.5	486.9	493.9

## Appendix 16 : Segment Data

In Millions of USD except Per Share	FY 2016		FY 2017		FY 2018	
12 Months Ending	04/29/2016		04/29/2017		04/28/2018	
Revenue	1,808.0	100.0%	1,874.4	100.0%	2,203.6	100.0%
BNC	1,808.0	100.0%	1,845.6	98.2%	1,816.1	79.3%
MBS	0.0		34.1	1.8%	459.5	20.1%
DSS	—		0.0		15.8	0.7%
Elimination	0.0		-5.3		-87.8	
Revenue Including Intersegment Revenue	1,808.0	100.0%	1,879.7	100.0%	2,291.4	100.0%
BNC	1,808.0	100.0%	1,845.6	98.2%	1,816.1	79.3%
MBS	0.0		34.1	1.8%	459.5	20.1%
DSS	—		0.0		15.8	0.7%
Cost of Revenue	—		1,415.3	100.0%	1,646.4	100.0%
BNC	—		1,390.6	97.9%	1,374.9	79.3%
MBS	—		29.3	2.1%	358.2	20.7%
DSS	—		0.0		0.4	0.0%
Corporate and Other	—		0.0		0.0	
Elimination	—		-4.7		-87.0	
Gross Profit	453.3	100.0%	459.1	100.0%	557.2	100.0%
BNC	453.3	100.0%	455.0	99.0%	441.2	79.1%
MBS	0.0		4.7	1.0%	101.3	18.2%
DSS	—		0.0		15.4	2.8%
Elimination	0.0		-0.6		-0.7	
Gross Margin	—		—		—	
DSS	—		0.00		97.70	
BNC	25.10		24.70		24.30	
MBS	0.00		13.90		22.80	
Elimination	0.00		12.00		0.80	
Operating Income	4.6	100.0%	13.6	100.0%	-262.7	
MBS	0.0		-11.6	-27.6%	44.9	-19.2%
DSS	—		0.0		0.2	-0.1%
Elimination	0.0		-0.6		-0.7	
Corporate and Other	—		-27.9		-27.8	
BNC	4.6	100.0%	53.7	127.6%	-279.4	119.3%
Adjusted EBITDA	80.5	100.0%	78.3	100.0%	126.8	100.0%
BNC	80.5	100.0%	107.8	103.4%	87.5	58.5%
MBS	0.0		-3.6	-3.4%	54.6	36.5%
DSS	—		0.0		7.6	5.1%
Elimination	0.0		-0.6		-0.7	
Corporate and Other	—		-25.4		-22.2	