

2U, Inc. | NASDAQ: TWOU

INVESTMENT RESEARCH REPORT

*"A Short Course To Dispel The 2U Bull Case"*

RECOMMENDATION: **Strong Sell**



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## *Executive Summary*



## *Spruce Point Is Short 2U, Inc. (NASDAQ: TWOU), Sees 30% To 50% Downside Risk (\$47-\$65/sh)*

2U, Inc. is a money-losing education technology provider that partners with universities to market and manage online graduate degree and short course programs. Its one size fits all model is being disrupted by fee-for-service players with lower take-rates. Our Freedom of Information Act ("FOIA") documents offer compelling evidence that 2U's long term guidance will disappoint investors.

**Significant Number of Programs Are Underperforming:** The Street is neglecting to understand the range of outcomes for both existing and future graduate programs. We have assembled a proprietary historical revenue model that estimates revenues for each individual graduate program using a combination of FOIA requests, conversations with industry participants, company filings, transcripts, publicly available enrollment data, and tuition costs ([Our methodology can be found here](#)). This proprietary model reveals a wide range of outcomes between programs that are successful and those that we would classify as failures. Most importantly, we have found that [eight of the 14 programs launched between 2013 and 2015 are underperforming](#) 2U's steady state program expectations. Further, based on our findings, we believe that [four of the top seven programs have peaked and/or seen enrollment declines](#). Our [FOIA request for new student enrollments for MBA@UNC](#) reveals that the 2U enabled MBA@UNC is now in decline as the last four starts have all seen YoY declines. We believe the Street is dangerously extrapolating 2U's guided steady state program performance to model 2U's new and future programs.

### **The Fallacy of 2U's Steady State Program Revenues Assumes Stable Take-Rates (i.e. Revenue Share %) And Online Course Tuition Costs**

- **Steady State Revenues For Future Programs Will Be Lower Than Predecessor Programs Due To Lower Tuition Take-Rates:** Competitive pressures along with greater university acceptance of distance learning is already leading to lower tuition take-rates from service providers. [We obtained a recent contract from a competitor where the tuition take-rate is disclosed at 40%](#). This is significantly lower than the "Low to Mid 60%" take-rates that 2U currently claims it continues to achieve. This contract is evidence of the margin pressures and disruption occurring in the Online Program Manager (OPM) competitive landscape. We have talked with many industry participants, and we layout the competitive value proposition being delivered by Noodle Partners (founded by 2U's former Chairman and CEO, John Katzman). [We find that Noodle, along with other disruptive competitors, can deliver a comparable model at half the cost](#) to the university. Further, the stigma attached to online (aka distance learning) graduate programs has decreased significantly over the past decade. The legacy OPM model was more attractive a decade ago when universities were unsure if distance learning would gain acceptance at the graduate level. OPM's historically offered a compelling value proposition, which included providing the upfront capital (up to \$10m), to set-up the program in return for +65% of student tuition over the course of a 10 - 15 yr contract. Today, the stigma associated with distance learning (especially at the graduate level) has dissipated. Therefore, universities are coming to the appropriate conclusion that they can invest their own upfront capital without 2U to retain more of their own tuition economics. Investors are neglecting how this industry is both maturing and changing.
- **Steady State Revenues For Future Programs Will Be Lower Than Their Predecessors As New Programs Have Lower Tuition Rates:** Steady state performance for mature programs need to be reduced from the \$16m of revenues that 2U guides investors to. Some of the verticals are becoming commoditized. For instance, our work reveals that the three most recent MBA program launches (Simmons Enterprise '16, University of Dayton '17, University of Denver '18) [charge tuition that is on average 40% less](#) than the first three MBA program launches (UNC '11, Syracuse '15, American '15). The Internet has disrupted many industries and driven price deflation across numerous categories; online MBA tuition rates are no exception. For instance, there are now reputable MBA programs (e.g. [University of Illinois iMBA](#)) that now cost ~\$22,000. It is going to be increasingly difficult for prospective online MBA students to pay \$80K to \$120K (i.e. American, Syracuse, and UNC) when a comparable curriculum can be offered at ~20% of the cost.



# Wall Street's Hockey Stick Projections For 2U Will Severely Disappoint Investors

**2U's Most Successful Programs Will Be Very Difficult To Replicate:** We provide an illustrative [case study for Simmons College](#), 2U's 2nd largest customer (17% of FY17 Revenues, ~\$49m). Currently, Simmons' College Masters in Nursing and Masters in Social Work represent the #2 and #3 ranked programs for all of 2U in new student enrollment. We obtained [Simmons College annual financials](#). Its income statement provides detail on its online programs. Additionally, on 2U's last earning call, it disclosed Simmons' EBITDA (i.e. surplus) from its 2U enabled programs for the fiscal year ending June 30, 2017. Taken all together, we believe that 2U's EBITDA attributable to Simmons was 70% higher than the cash flow to the university. [This contradicts what 2U tells investors and administrators](#) – that a program partnership will net more cash flow to the university than 2U. Simmons was the 2nd program in each of these verticals following the success of Georgetown's Nursing and USC Social Work programs. 2U likely knew that they had spillover demand from the original two programs in these verticals. Simmons took the bait with an initial take-rate of ~70%. Based on the aforementioned information, we believe that 2U's success (notably its take-rate) with Simmons should not be extrapolated to future programs.

**Margin Pressure Will Also Reveal Itself In Higher Marketing And Student Acquisition Costs:** As part of 2U's value proposition to universities, it offers marketing programs to attract students. In 2017, 52% of revenues were spent on marketing and sales. 2U specifically warns as a risk factor that it makes substantial use of search engine optimization and paid search for its efforts. Not surprisingly, given the rapid proliferation of online educational programs, the competition for keyword and digital marketing programs has increased. [We conducted a keyword analysis using SEM Rush](#) and find that CPC (Costs per Clicks) in 2U's three main verticals have risen 12% to 27% year over year. [We also find evidence that in 2017, 2U experienced the first signs of deleveraging in its direct marketing costs](#). We expect this trend to intensify going forward.

**2U And Analyst Comparisons To SaaS Companies Are Unjustified:** There is nothing sticky or recurring about 2U's business model at all. As SaaS companies become larger, margins expand and ARR (annual recurring revenues) increase. Investors need to be aware that 2Us margins will compress in the future. Additionally, 2U needs to refresh its student enrollments annually as ~50% of its currently enrolled students graduate and no longer contribute to financial performance.

**2U Is Becoming Less Transparent With Its Disclosures As Management Turnover In The C-Suite Accelerates:** In our view, 2U is deliberately [becoming less transparent](#) because a continuation of some of its historical disclosure practices about cohort performance would lead investors to our conclusions. Most importantly, 2U's past disclosure would have alerted investors to the existence of at least eight underperforming programs. Investors should be concerned that, not only did one of 2U's original founders (John Katzman who started a competitor, Noodle Partners) leave prior to the IPO, but four C-suite executives have left executive posts since 2015: Susan Cates (Former [COO](#), last 17 months), James H. Shelton (former [Chief Impact Officer](#)), Jeff C. Rinehart (former [Chief Marketing Officer](#)), and Robert L. Cohen (Former [COO](#)). Perhaps, these departures are what led to the hire of a [Chief People Officer](#). On May 21, 2018, 2U [announced](#) a new COO, Mark Chernis. Mark was one of the founding Board members of 2U, and also previously worked for Pearson, one of 2U's main OPM competitors. In our opinion, his inclusion in the Board and subsequent hire may represent a conflict of interest on multiple accounts. Furthermore, in our experience, when a Board member needs to step into an operations role, it is usually a bad signal that problems are present.



## *Spruce Point Sees 30% To 50% Downside Risk (\$47-\$65/sh):*

**GetSmarter Acquisition Likely A Diversion For Slowing U.S. Growth:** At Spruce Point, we've successfully shorted numerous companies where we spotted early underlying business challenges being deflected by acquisitions. In the case of 2U, we find that it [made its first acquisition of GetSmarter](#) in May 2017, allowing it also to diversify internationally. We believe this validates our view that domestic growth is slowing. GetSmarter also exposes 2U to short courses, which is a lower quality business, with shorter duration revenue visibility, and fewer barriers to entry.

**Recent Equity Raise of +\$330m Raises Questions:** Alongside the COO appointment, 2U did a [secondary stock issuance](#) and raised \$330m at \$90/share (a 5.8% discount to the closing price of \$95.53). The language in its capital raise differs from its capital raise just eight months prior (September 2017). [The use of proceeds has now been expanded to include acquisitions](#), despite it having recently acquired GetSmarter, and not proven its ability to make good on its deal promises. Previous to this recent capital raise, 2U had \$182m of cash on its balance sheet and has been talking to investors about its ability to become cash flow positive. Spruce Point believes 2U's most likely motivation for issuing stock was to grab the money while investors aren't attuned to its growing program failures and rising competitive threats. Otherwise, it is likely 2U is signaling a deferral of its time line to reach positive free cash flow.

**Current Consensus Revenue Estimates Assume "More Than" Perfection:** We created a [consensus revenue model](#) to better understand what are the implicit assumptions in consensus revenue estimates over the next four years (i.e. till 2021). Current revenue estimates reflect perfect execution of 84 programs between 2016 and 2021. Perhaps, more importantly, these estimates also rely on 2U's guidance for steady state program revenues, which we illustrate rest upon faulty assumptions.

**Valuation Currently Implies Well In Excess of 276 Future Programs At 2U's Current Steady State Program Expectations:** We have assembled a sum-of-parts analysis where we separately value the mature cohort vintages (inception to 2015), new cohorts (2016 – 2017), 2U's recent Short Course segment acquisition (GetSmarter), and its federal NOL. This remaining value embedded in 2U's current valuation implies that the Street is currently valuing all future programs (2018 and Beyond) at +\$3 billion. Our math conservatively estimates that this implies well in excess of 276 future programs – a wildly unrealistic outcome.

**A Terrible Risk/Reward Owning 2U With Analysts Seeing Just 6% Upside, We See 30% - 50% Downside Risk:** Insiders have made out like bandits, selling \$148m of stock, despite 2U burning \$225m of negative free cash flow since 2011. Approximately 25% of sales have been the CEO, who just [adopted a new 10b5-1 program in March 2018](#) ahead of its recent capital raise, and can start selling again next week post lock-up. Analysts have relentlessly said "Buy" but at the current time analysts have an average price target of \$99/sh, which represents just 7% upside, a poor risk/reward. Analysts fail to appreciate the change in competitive dynamics, and extrapolate 2U's current performance into the future without having done the exhaustive FOIA and program analysis we've undertaken. Once reality sets in that 2U's best days are behind it, and it begins disappointing unrealistic Street expectations, we expect significant valuation compression risk given its shares trade at 9.5x and 180x 2019E sales and Adj EBITDA, respectively.

## 2U's Capital Structure And Valuation

2U is trading at peak valuation on the perception of flawless execution of existing and future program launches. Our report will illustrate the pressures facing 2U and why an unfavorable risk/reward exists at its current valuation.

\$ in millions, except per share figures

Stock Price	\$93.16	<b>Street Valuation</b>	<b>2017A</b>	<b>2018E</b>	<b>2019E</b>
Diluted Shares	60.8	EV / Sales	18.0x	12.6x	9.5x
<b>Market Capitalization</b>	<b>\$5,662.0</b>	EV / Adj. EBITDA	451.1x	301.0x	180.4x
		Price / Adj. EPS	NM	NM	NM
Total Debt Outstanding	\$0.0	Price / Tangible Book	NM	NM	NM
Less: Cash and Equivalents	\$512.6	<b>Growth and Margins</b>			
Net Debt (Cash)	(\$512.6)	Sales Growth	39.3%	42.6%	32.4%
<b>Total Enterprise Value</b>	<b>\$5,149.4</b>	Adj. EBITDA Margin	4.0%	4.2%	5.3%

Source: Bloomberg, Company Filings and Spruce Point Estimates  
Diluted Shares and cash reflect the capital raise that closed on May 25, 2018



# 2U Looks Like A Vehicle To Enrich Insiders, While Destroying Value For Shareholders

2U was founded in 2008. In over a decade since its founding, there is no evidence it has built a business of any value. Cumulative free cash flow since reporting in 2011 amounts to a loss of \$225m. Over the same time periods, insiders have stashed in their piggy banks \$148m from stock sales. Who is laughing to the bank? Now ask yourself, does 2U look like a vehicle to enrich insiders or investors?

## 2U Financial Summary

\$ in mm	2011	2012	2013	2014	2015	2016	2017	Q1'18	Cumulative 2011-Q1'18
<b>Sales</b>	\$29.7	\$55.9	\$83.1	\$110.2	\$150.2	\$205.9	\$286.8	\$92.3	\$1,014.1
% growth	--	87.9%	48.8%	32.6%	36.2%	37.1%	39.3%		
<b>Adj EBITDA</b>	(\$23.4)	(\$20.2)	(\$2.9)	(\$22.3)	(\$18.9)	(\$11.3)	(\$10.5)	(\$8.6)	(\$120.9)
% margin	-78.5%	-36.2%	-27.6%	-20.2%	-12.6%	-5.5%	-3.7%	-9.3%	-11.9%
<b>Cash from Ops</b>	(\$18.6)	(\$20.2)	(\$15.7)	(\$11.7)	(\$9.3)	\$5.2	\$8.1	(\$18.8)	(\$80.9)
Less: Capex	(2.5)	(2.3)	(2.4)	(3.8)	(1.2)	(7.6)	(27.3)	(21.8)	(68.9)
Less: Purchase of Intangibles	(5.2)	(2.6)	(5.2)	(7.2)	(12.4)	(16.7)	(23.8)	(1.8)	(74.8)
<b>Adj. Free Cash Flow</b>	(\$26.3)	(\$25.0)	(\$23.3)	(\$22.6)	(\$22.8)	(\$19.2)	(\$43.0)	(\$42.4)	(\$224.7)
% margin	-88.5%	-44.8%	-28.0%	-20.5%	-15.2%	-9.3%	-15.0%	-45.9%	-22.2%
<b>Insider Sales (1)</b>	--	--	--	+\$15.2	+\$75.5	+\$13.4	+\$20.3	+\$23.6	+\$148.1



Source: Public info and TWOU filings

(1) Insider sales for 2018 are YTD. Includes management and Directors





*What 2U Doesn't Want You To Know:  
A Deep Dive Into Its Competitive  
Pressures And Failing Programs*

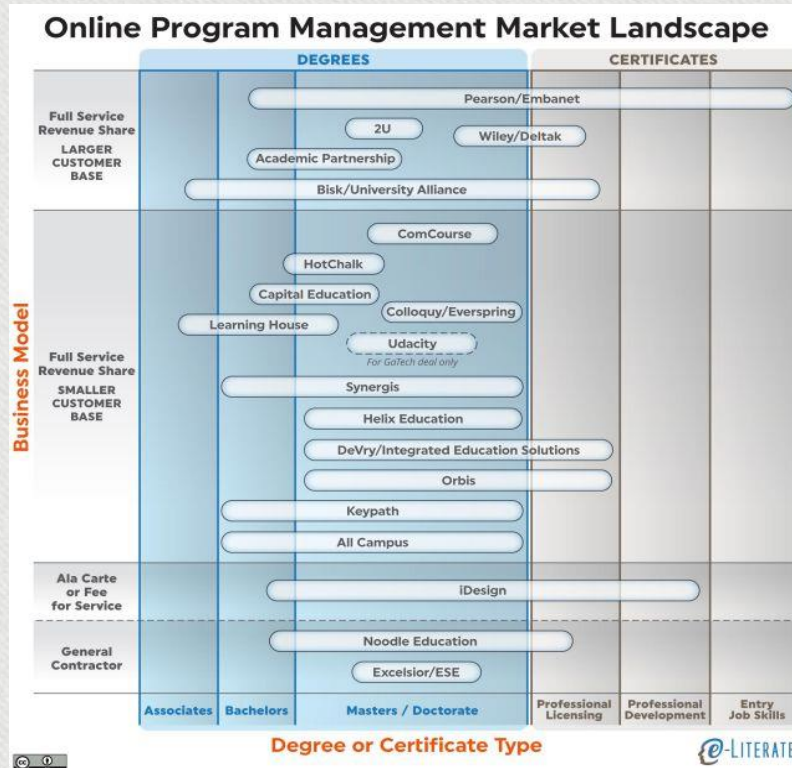




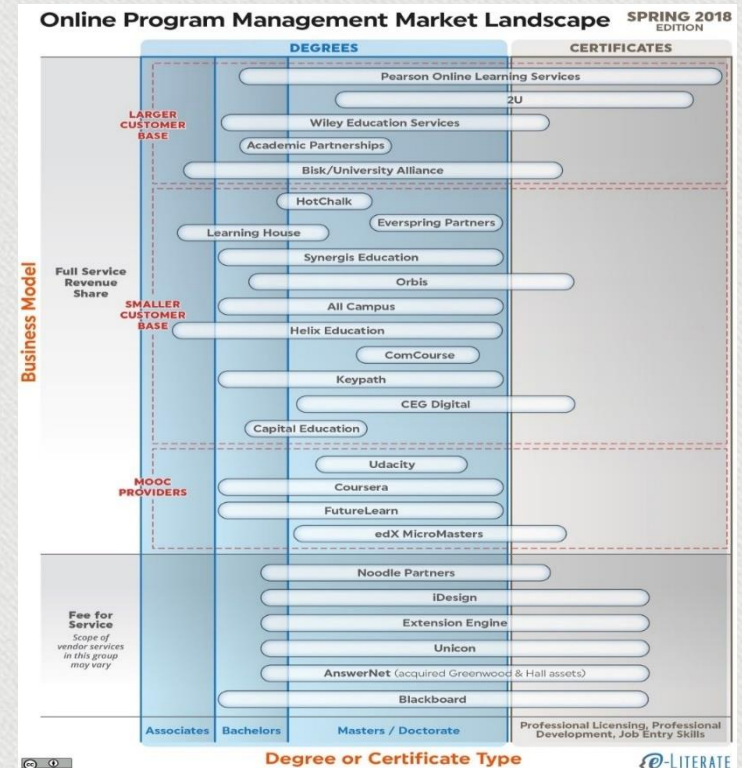
# Competition Rapidly Intensifying

The competitive landscape is intensifying, with bifurcation between full and ala carte service providers. Industry experts believe there are >40 competitors in the marketplace (1). This is a substantial increase from the 20 that were depicted in e-literate's market landscape in June of 2016 (below) and the two named competitors in 2U's 2014 IPO document. (2)

## Current Competitive Landscape: June 2016



## Current Competitive Landscape: April 2018



- 1) [InsideHigherEd](http://InsideHigherEd), June 2018
- 2) [S-1 offering](#): "Our primary competitors include EmbanetCompass and Deltak, which were acquired in 2012 by Pearson and John Wiley & Sons, respectively, both of which are large education and publishing companies. There are also several new and existing vendors providing some or all of the services we provide to other segments of the education market, and these vendors may pursue the institutions we target."



# Industry Participants Point To A Lot of Challenges For OPMs And 2U Specifically

## Why 2U And The OPM Industry Does Not Have SaaS-Like Characteristics:

*"The cost of launching online programs is going up as student acquisition costs increase."* --[insidehighered.com](https://insidehighered.com)

*"Everybody is wondering how to scale."* --[insidehighered.com](https://insidehighered.com)

## New Model of "Fee-for-Service" disrupting "Revenue Share":

*"The notion that a decade from now, universities are going to be paying half or two-thirds of their revenue for some marketing and tech services is ridiculous."*

-- [John Katzman, founder of Noodle Partners and 2U](#)

*"Only a finite number of institutions that will continue to seek out the revenue-share model."* -- [Paxton Riter, founder of iDesign](#)

*"A fee-for-service agreement allowed us to bolster the areas where we needed additional support while carefully stewarding our resources . . . Further, the fee-for-service agreement had a shorter duration, which gave us time to build our internal capacity and did not lock us into a long-term contract."* -- [insidehighered.com](https://insidehighered.com)

*"Our fees and those of our providers will end up totaling about 30% of tuition."* -- [Noodle Partners](#)

*"The revenue share is outrageous," comments NYU Steinhardt's Brewer, who partnered with 2U and HotChalk to launch several degrees. "But, of course, we couldn't have done it ourselves."* --[insidehighered.com](https://insidehighered.com)

## 2U's Technology Is Often A Complaint

*"It amazes me that higher education leaders would chose to partner with an OPM like 2U. 2U demands that their university partners use the 2U LMS [Learning Management System] platform and this is NOT an advantage. The 2U LMS is clunky and outdated and doesn't compare to the leading LMS platforms the university already has in place. This just causes confusion – faculty in the 2U programs must use two very different platforms to teach non-2U courses. 2U courses are cookie cutter and require weekly synchronous meetings which is counter to one of the major benefits of online learning - ANYWHERE and ANYTIME! And don't get me started about the 10 year contract. But don't worry, technology probably won't change too much in 10 years. In my opinion, fee-for-service OPMs are the only way to go when an institution needs external support to launch a new online program."*-- [A Tipping Point for OPM?, Insidehighered.com](#)

## Profit Motives Intertwined With Non-Profit Education Poses Risks

*"These outside contractors may be supporting and supplying online programming effectively, but the involvement of a third-party—particularly a profit-seeking entity—in providing services so intertwined with the actual teaching and learning also presents potential risks to quality and value in the education. Specifically, the growing use of for-profit intermediaries to provide online programming at public institutions raises important questions concerning whether these agreements appropriately shield students from the profit-seeking motives of these companies, inform students about exactly who is responsible for the education they are receiving, and provide quality education that is up to the standards of institutions backed by the full faith and credit of states."* -- [tcf.org](https://tcf.org)

## The Cons of Outsourcing Online Program Management:

- "High Opportunity Cost with take-rates over 50%"
- "Unpredictable and Non-Transparent Marketing Efforts"
- "Loss of Control over Brand"
- "Program Infrastructure is Not Owned" -- [Vontweb.com](https://vontweb.com)



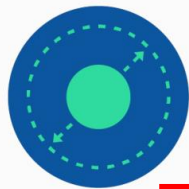


# The Fallacy of Steady State Revenues: Lower Take-Rates Have Arrived!

2U claims it gets 60% revenue shares with universities known in the industry as its “take-rate”. Competitors are significantly pressuring the historical industry take-rate. We obtained the University of Illinois MBA Contract with Coursera (a 2U Competitor) that was signed in March of 2017. Coursera’s take-rate is 40%. This illustrates the fallacy of assuming that 2U’s historical performance will continue going forward in a period of margin compression.

## 2U Tells Investors It Gets 60% Revenue Share

### Grad Program – target steady state attributes



AVG. PROGRAM	
Avg. Tuition	\$70 - \$75k
Annual New Student Enrollments	300 - 500
Avg. Retention Rate	82 - 84%
Avg. Annual Steady State Tuition	\$25-28 million
UNIVERSITY ECONOMICS	
Revenue Share	Mid 30 to 40 percent
Steady State Annual Revenue	\$9-10 million
Profitability	\$6-7 million
2U ECONOMICS	
Revenue Share	Low to mid 60 percent
Steady State Annual Revenue	\$15-17 million
Profitability	\$5-6 million *

## Current Market Reality In The Industry Is 40%

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### 2. REVENUE SHARING: CREDIT-BEARING COURSES

- Revenue Sharing. Tuition (less any Tuition Waivers as permitted under Section 2(c)) will be collected by Illinois for all Degree Courses and Degree Programs, and shall be shared with Coursera in the percentages set forth below.
  - iMBA Degree Program. Contingent on the Roadmap being completed as set forth in Attachment C, tuition revenue share for the iMBA Degree Program will be [REDACTED] to Illinois and [REDACTED] to Coursera from Degree Launch through Spring Semester 2018; and 60% to Illinois and 40% to Coursera beginning Summer 2018, and continuing for the duration of the iMBA Degree Program.

IN WITNESS WHEREOF, the Parties have executed this Agreement as of the Effective Date.

Coursera, Inc.  
“Coursera”

By: Nikhil Sinha  
Printed Name: NIKHIL SINHA  
Title: CHIEF BUSINESS OFFICER  
Date: MARCH 29, 2017

The Board of Trustees of the University of  
Illinois, on behalf of its Urbana campus  
“Illinois”

By: Bradley W. Henson  
Walter K. Knorr  
Printed Name: Walter K. Knorr  
Title: Comptroller  
Date: 2017.04.07 16:02:04 -0500

Source: [2U Baird Consumer, Tech and Services Conference](#), June 2018

Source: University of Illinois FOIA request

# Historical Estimates of Program Performance Shows Significant Underperformance

The original four programs (pre-2013 cohort) have been a success. In the following three years (2013 – 2015), 2U launched 14 more programs. Eight of the 14 programs (57%) launched are underperforming 2U’s “steady state program guidance”. The Street isn’t appreciating the bifurcation of successful and underperforming launches within each cohort. Rather, we believe the Street is dangerously using program averages and 2U’s “steady state program” guidance, and is likely assuming that ~84 program launches from 2016 to 2021 will all be successful.

**Historical Revenue Estimates Per Graduate Program for all Programs Launched from 2009 to 2015**

	2011	2012	2013	2014	2015	2016	2017
<b>Pre- 2013 Cohort</b>							
USC -- Education	\$10.0	\$15.0	\$20.0	\$23.0	\$22.1	\$15.4	\$13.4
USC -- Social Work	17.9	28.6	37.3	38.1	43.1	54.1	59.9
Georgetown -- Nursing	0.9	6.1	13.5	15.4	13.5	12.6	13.8
UNC -- MBA	0.9	6.1	9.9	14.1	16.4	20.1	26.0
<b>Total</b>	<b>\$29.7</b>	<b>\$55.9</b>	<b>\$80.7</b>	<b>\$90.7</b>	<b>\$95.1</b>	<b>\$102.1</b>	<b>\$113.1</b>
<i>Average / Program</i>	<i>\$7.4</i>	<i>\$14.0</i>	<i>\$20.2</i>	<i>\$22.7</i>	<i>\$23.8</i>	<i>\$25.5</i>	<i>\$28.3</i>
<i>TWOU Steady State Expectations / Program</i>	<i>\$1.0</i>	<i>\$4.0</i>	<i>\$7.0</i>	<i>\$10.0</i>	<i>\$13.0</i>	<i>\$16.0</i>	<i>\$16.0</i>
<b>2013 Cohort</b>							
WashU -- Legal			\$0.3	\$3.1	\$1.7	\$4.4	\$4.9
UNC -- MPA			1.1	0.5	1.7	2.5	2.7
American -- Int'l Relations			0.3	3.1	2.5	3.6	6.0
GW -- Public Health			0.3	3.1	9.1	13.0	16.5
Simmons -- Nursing			0.3	7.1	18.7	20.5	24.8
<b>Total</b>	<b>\$2.4</b>	<b>\$16.7</b>	<b>\$33.6</b>	<b>\$44.0</b>	<b>\$54.9</b>		
<i>Average / Program</i>	<i>\$0.5</i>	<i>\$3.3</i>	<i>\$6.7</i>	<i>\$8.8</i>	<i>\$11.0</i>		
<i>TWOU Steady State Expectations / Program</i>	<i>\$1.0</i>	<i>\$4.0</i>	<i>\$7.0</i>	<i>\$10.0</i>	<i>\$13.0</i>		
<b>2014 Cohort</b>							
Berkeley -- Data Science				\$0.5	\$2.7	\$7.9	\$12.4
GW - Healthcare Admin				0.5	5.3	4.0	4.1
Simmons -- Social Work				1.3	5.0	13.1	20.5
Simmons -- Nursing (no Bachelors)				0.4	0.3	3.5	1.0
<b>Total</b>	<b>\$2.8</b>	<b>\$13.4</b>	<b>\$28.5</b>	<b>\$37.9</b>			
<i>Average / Program</i>	<i>\$0.7</i>	<i>\$3.4</i>	<i>\$7.1</i>	<i>\$9.5</i>			
<i>TWOU Steady State Expectations / Program</i>	<i>\$1.0</i>	<i>\$4.0</i>	<i>\$7.0</i>	<i>\$10.0</i>			
<b>2015 Cohort</b>							
Syracuse -- MBA				\$4.6	\$17.1	\$19.8	
SMU -- Data Science				0.9	1.2	4.5	
Northwestern -- Mental Health				0.9	1.5	4.6	
Syracuse -- Communications				0.9	0.5	1.0	
American -- MBA				0.9	6.8	14.3	
<b>Total</b>	<b>\$8.1</b>	<b>\$27.1</b>	<b>\$44.1</b>				
<i>Average / Program</i>	<i>\$1.6</i>	<i>\$5.4</i>	<i>\$8.8</i>				
<i>TWOU Steady State Expectations / Program</i>	<i>\$1.0</i>	<i>\$4.0</i>	<i>\$7.0</i>				

**The Pre-2013 Cohort Scorecard**  
(i.e. the Core Four):  
Successful programs: 4

**The 2013 Cohort Scorecard:**  
Successful programs: 2  
Underperforming Programs: 3

**The 2014 Cohort Scorecard:**  
Successful programs: 2  
Underperforming Programs: 2

**The 2015 Cohort Scorecard:**  
Successful programs: 2  
Underperforming Programs: 3

**First Four Cohorts Scorecard:**  
Successful Programs: 10  
Underperforming Programs: 8



## Case Study – UNC

Via FOIA requests, we were able to obtain new student enrollment data since inception for [MBA@UNC \(launched in July 2011\)](#) and MPA@UNC (launched January 2013).

### MBA@UNC Student Enrollment

	FY2012	FY2013	FY2014	FY2015	FY2016	FY2017	FY2018	Y/Y Chg	
								'17 / '16	'18 / '17
<b>July</b>	19	47	69	74	83	128 →	122	54%	-5%
<b>October</b>	32	76	89	101	114	161 →	160	41%	-1%
<b>January</b>	38	68	63	78	112	116 →	107	4%	-8%
<b>April</b>	42	70	55	66	78	92 →	81	18%	-12%
<b>Total</b>	131	261	276	319	387	497	470	28%	-5%

The year-over-year comparisons for the four starts for fiscal year 2018 (July '17, Oct '17, Jan '18 and Apr '18) are all below the prior year comparisons and are getting worse. MBA@UNC enrollment is now in a steady decline

### MPA@UNC Student Enrollment

For the Fiscal Year ending June 30,

	FY2013	FY2014	FY2015	FY2016	FY2017	FY2018
<b>Aug</b>		21	21	16	16	21
<b>Sep - Oct</b>		13	20	21	17	13
<b>Jan - Mar</b>	18	17	23	22	19	
<b>May</b>	7	21	24	15	11	
<b>Total</b>	25	72	88	74	63	

No Students have been enrolled since September 2017. This program just passed its 5<sup>th</sup> anniversary and has never enrolled more than 88 new students in a year. This is a far cry from the "300 to 500" new student enrollments that 2U describes as a typical steady state graduate program



## Four of The Top Seven Programs Are Seeing A Decline In Student Enrollment

We estimate that four of 2U's top seven programs (**shown in red**) enrollment trends may be experiencing flat or declining enrollment trends.

University	2-U Enable Graduate Program / Vertical	Launch Date	Comment
USC	MSW@USC / Social Work	Oct 2010	Unable to determine
Simmons College	Nursing @Simmons / Nursing	Oct 2013	Based on Spruce Point research
Simmons College	SocialWork@Simmons / Social	July 2014	Based on Spruce Point research
UNC	MBA@UNC / Business	July 2011	FOIA Request
Syracuse	MBA@Syracuse	Jan 2015	Unable to determine
George Washington	MPH@GW	June 2013	Unable to determine
USC	USC Rossier Online / Education	April 2009	Deduced from 2U's disclosures

Source: Bloomberg, Company Filings and Spruce Point Estimates



# 2U Is Becoming Less Transparent With Its Business And Financial Disclosures

We are always wary of companies that reduce disclosures, or refocus investors on different key operating metrics.

As we will show on this and following pages, 2U's disclosure began to change after 2015. We believe the disclosure changes were a deceptive move by management to avoid the recognition of underperforming programs. 2U's MD&A up until 2015 attributed the aggregate increase in revenues between each of the cohorts (pre-2013, 2013, 2014 and 2015). 2U continued to disclose Platform Revenue Retention Rate (a comparative revenue measure for programs operating at least 2 full years).

In the [3Q17 10Q](#), 2U disclosed that they would stop reporting Platform Revenue Retention:

## "Platform Revenue Retention Rate"

Beginning with this Quarterly Report on Form 10-Q, we have ceased using platform revenue retention rate to evaluate the success of our growth strategy. In our Graduate Program Segment, we operate under long-term contracts, and since inception, have not lost a contract for an operating program or had material period over period revenue declines in the programs we operate under these contracts. We have also extended seven of our first 11 contracts prior to expiration and have no contracts that are scheduled to expire prior to 2021. Given these facts, we have determined that platform revenue retention rate currently provides little to no value in evaluating our business and is not expected to provide value in the future.

This implies that some programs have had declines year-over-year, but the "materiality threshold" is based on aggregate revenues

What investor would not find value in continuing to monitor this metric. We liken this to a retail store no longer reporting SSS because the metric was swayed too much by mature stores

2U likely stopped disclosing revenue per cohort in 2016 because they did not want investors to be able to point to underperforming programs

The Platform Revenue Retention Rate should have included 13 programs (not 12).

Was the omission an underperforming program?

Was 2U cherry picking programs to include in this ratio?

## Cohort Attribution from MD&A

	2009	2010	2011	2012	2013	2014	2015	2016	2017
Pre-2013			29.7	55.9	80.7	90.7	95.1	No longer Disclosed	
2013					2.4	16.7	33.6		
2014						2.8	13.4		
2015							8.1		
2016									
2017									
<b>Total Graduate Revenues</b>			<b>29.7</b>	<b>55.9</b>	<b>83.1</b>	<b>110.2</b>	<b>150.2</b>	<b>205.9</b>	<b>270.4</b>

## Platform Revenue Retention Rate

	2009	2010	2011	2012	2013	2014	2015	2016	2017
<b>Platform Revenue Retention Rate</b>									
Platform Revenue Retention Rate			127.1%	157.0%	144.4%	112.4%	120.2%	123.0%	No longer Disclosed
# of programs in Comparison			1	2	4	4	9	12	
# of programs operating that <u>should be</u> in Comparison			1	2	4	4	9	13	

## Program Starts

	2009	2010	2011	2012	2013	2014	2015	2016	2017
# of program starts	1	1	2	0	5	4	5	6	
<b>Cumulative Programs</b>	<b>1</b>	<b>2</b>	<b>4</b>	<b>4</b>	<b>9</b>	<b>13</b>	<b>18</b>	<b>24</b>	



# Recent Capital Raise Likely Indicates That Growth Profile of The Core Business Is Weakening

2U's recent equity raise at the end of May 2018 may indicate that organic growth is set to slow, and it needs more acquisitions to plug the hole. Look at the change in the "Use of Proceeds" between the equity raise in Sep '17 vs. May '18. Management wants more capital for deals, yet it has not demonstrated its acquisition of GetSmarter can deliver value for shareholders, and that it can turn its business cash flow positive.

**Date:** 9/6/17

**Shares:** 4.2M

**Price:** \$49.00

**Use of Proceeds:**

*The proceeds of the offering will be used by the Company for general corporate purposes, including expenditures for program and short course marketing, technology, and content development, in connection with new program and short course launches and growing existing programs and short courses.*

**Date:** 5/22/18

**Shares:** 3.83M

**Price:** \$90.00

**Use of Proceeds:**

*The proceeds of the offering will be used by the Company for working capital and other general corporate purposes, including expenditures for program and short course marketing, technology, and content development, in connection with new program and short course launches and growing existing programs and short courses **as well as the strategic acquisition of, or investment in, complementary products, technologies, solutions or businesses.***

*Note added language for most recent capital raise includes a range of acquisition possibilities.*

*We assume an attorney deliberately chose those words. We believe this language may be an early indication that 2U's executive team sees greater risks to its graduate business segment*



# Investors Need To “GetSmarter” About The Differences Between 2U’s Short Course And Full Course Segments

2U acquired GetSmarter, a online short course provider, on July 3, 2017. We find that the Street all too often does not disaggregate “tuck-in” acquisitions and ascribes the same valuation multiples from the previously existing business. The Short Course segment offers significantly less revenue visibility in a more competitive marketplace where brand is often less significant than the content of the course.

Comparison	Short Course (GetSmarter)	Full Course (Graduate Segment)
Type of Education	Short Course	Graduate Degree
Diploma / Certificate	Certificate of Completion	Diploma
Type of Enrollment	Open Enrollment	Must be Accepted
Avg. Duration of Study	~ 10 Weeks	~ 2 years
2U Initial Contact to Conversion <sup>(1)</sup>	1 month	7 months
Average Revenue / FCE <sup>(2)</sup>	\$1954	~\$2700
Average FCE	1 Course / Certificate	~10 – 20 courses to obtain diploma
2U Revenue Recognition <sup>(3)</sup>	<b>Aggressive</b> 100% of Course Cost	<b>More Conservative</b> ~60 – 65% tuition take-rate

The revenue visibility in the short course segment is significantly less given a course length of 10 weeks, and initial contact to conversion of 1 month versus the full course segment comparable of 2 years of study and 7 months from initial contact to conversion.

A Full Course student represents 10 – 20 FCEs vs. a short course student that represents 1 FCE.

Revenue recognition differs in these two segments. The short course segment recognizes 100% of the course cost and then expenses “curriculum and teaching”. The full course segment only recognizes 2U’s “tuition take-rate”. In both segments, 2U is partnering with universities. Why are they recognizing gross course revenues in one case and just its portion in the latter?

Source: Company Filings, Company Transcripts and Spruce Point Estimates

(1) Represents the time it takes from a prospective student’s first contact with 2U until they enroll in a course or degree

(2) The average revenue that 2U recognizes on its income statement per FCE

(3) “In our GetSmarter business, students enroll with and pay tuition directly to GetSmarter, and we recognize the full amount as revenue. We then pay the university partners their share upon course completion, and this expense will make up the first part of a new cost line on our P&L called curriculum and teaching” – Catherine A Graham, CFO ([2Q’17 Conference Call](#))





## *The Fallacy of Steady State Revenues*

# *The Fallacy of Steady State Revenues: The OPM Market And Why The Model Is Being Disrupted*

The OPM Market worked ten years ago when the stigma of online education had a perception of risk. This is no longer the case.

## ***Why The OPM Market Used To Make Sense***

The OPM industry (Full Service Revenue Share) gained initial traction with universities that wanted to offer an online degree commensurate with the campus degree. Initially, this dual offering (online and campus) gained more acceptance with graduate programs versus their undergraduate equivalents. As universities became more open to offering their graduate programs online, there was a need for the entire end-to-end solution which included assistance with marketing, enrollment and all of the technology (e.g. LMS -- Learning Management System). In its infancy, many universities were skeptical of the success and acceptance of online degrees. Therefore, OPMs alleviated a lot of the financial stress to deliver these programs as they would invest all of the upfront capital (sometimes upwards of \$10m) in order to deliver students and create the degree online. In return for their capital commitment, the OPMs would typically take 60%-70% of the tuition (i.e. tuition take-rate) and require contract lengths that ranged from 10 to 15 years.

## ***Why The OPM Market is Becoming Obsolete In Many Ways***

Today, the stigma of obtaining a degree online, especially at the graduate level, has dissipated significantly. Therefore, the “upfront capital risk” of a university starting an online graduate degree equivalent is now considered “lower risk.” Further, universities don’t want to give up 60% to 70% of their tuition, be tied to contracts that last 10 to 15 years, nor want to give up ownership of their intellectual property.

Therefore as the industry has matured, new entrants have begun to enter the marketplace. The OPM landscape has been separated into two distinct models: Full Service Revenue Share (traditional OPMs) and fee-for-service (new disruptors). The fee-for-service (aka “unbundling of services” can offer universities the distinct modules and/or products specific to their individual needs. Each “fee-for-service” company concentrates on their unique core competency (i.e. enrollment services, marketing and/or technology) and some will additionally act [as a general contractor helping the university assemble an end-to-end online degree offering more customization with lower total costs and less onerous contracts](#).

***“Smart Provosts and CFOs are already rejecting OPM contracts as inconsistent with the long-term goals of the university. . . We are fast approaching the moment at which the permanent revenue share model will disappear. And so some of the traditional OPMs now offer schools as much as \$2 million as a signing bonus. They’re not doing it out of a humanitarian impulse; they’re doing it to prop themselves up, knowing that their profit on your students will be ten or twenty times that.” – [Noodle Partners](#)***



# *The Fallacy of 2U's Steady State Program Revenues*

## The Fallacy of 2U's Steady State Program Revenues:

- **Steady State Revenues For Future Programs Will Be Lower Than Predecessors Mainly Due To Lower Tuition Take-Rates.** Competitive pressures along with greater university acceptance of distance learning is already leading to lower tuition take-rates from service providers. [We obtained a recent contract from a competitor where the tuition take-rate is disclosed at 40%.](#) This is significantly lower than the 60%-65% take-rates that 2U claims it continues to achieve. This contract is evidence of the disruption occurring in the Online Program Manager (OPM) competitive landscape. We have talked with many industry participants and we layout the competitive value proposition being delivered by Noodle Partners (founded by 2U's former Chairman and CEO, John Katzman). [We find that Noodle, along with other disruptive competitors, can deliver a comparable model at half the cost](#) to the university. Further, the stigma attached to online (aka distance learning) graduate programs has decreased significantly over the past decade. The legacy OPM model was more attractive a decade ago when universities were unsure if distance learning would gain acceptance at the graduate level. OPM's historically offered a very compelling value proposition, as the OPM would take on the upfront capital risk (up to \$10m) to set up the program in return for +65% of student tuition over the course of a 10 to 15 year contract. Today, the stigma associated with distance learning (especially at the graduate level) has dissipated significantly. Therefore, universities are coming to the appropriate conclusion that they can invest the substantial upfront capital in order to retain more of their own tuition. The Street is neglecting how this industry is both maturing and changing.
- **Steady State Revenues For Future Programs Will Be Lower Than Predecessors As Newer Programs In The Same Verticals Have Lower Tuition Rates:** Steady state performance for mature programs need to be reduced from the \$16m that 2U guides investors to. Some of the verticals are becoming commoditized. For instance, our work reveals that the three most recent MBA program launches (Simmons Enterprise '16, University of Dayton '17, University of Denver '18) charge tuition that is on average 40% less than the first three MBA program launches (UNC '11, Syracuse '15, American '15). As the internet has disrupted many other industries, we see the broad acceptance of distance learning being another catalyst that allows the Internet to significantly reduce graduate tuition costs. For instance, there are now reputable MBA's (e.g. [University of Illinois iMBA](#)) that now cost ~\$22,000. It is going to be increasingly difficult for prospective online MBA students to pay \$80K to \$120K (i.e. American, Syracuse, and UNC) when a comparable curriculum can be offered at ~20% of the cost.

# The Fallacy of Steady State Revenues: 2U's Guidance

We have interpreted quotes from 2U's transcripts to derive the steady state and NPV of an incremental new program assuming it reaches 2U's steady state revenues and margin profile.

## Spruce Point Interpretation of Steady State Expectations per Program (\$ in Millions)

### NPV of New Program

Tuition		1.7	6.7	11.7	16.7	21.7	26.7	26.7	26.7	26.7	26.7	26.7	26.7	26.7	26.7	26.7
Take-rate		60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%	60%
<b>Year</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>	<b>10</b>	<b>11</b>	<b>12</b>	<b>13</b>	<b>14</b>	<b>15</b>
Revenue		1.0	4.0	7.0	10.0	13.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0
EBITDA	(3.0)	(2.5)	(2.0)	1.1	2.4	3.9	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8
% Margin		-250%	-50%	16%	24%	30%	36%	36%	36%	36%	36%	36%	36%	36%	36%	36%
Discount Rate	11.7%															
Capitalized Software / Program	(\$2.3)															
PV of New Program	\$12.7															

To arrive at our NPV per future program, we assume the midpoint of \$7.5M (\$5M to \$10M) of negative cash outflow prior to a program starting and up until completion of its second year

To arrive at our NPV per future program, we assume the midpoint of \$7.5M (\$5M to \$10M) of negative cash outflow prior to a program starting and up until completion of its second year

### NPV of 2016 Programs

<b>Year</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>	<b>2023</b>	<b>2024</b>	<b>2025</b>	<b>2026</b>	<b>2027</b>	<b>2028</b>	<b>2029</b>	<b>2030</b>	<b>2031</b>
Revenue	4.0	7.0	10.0	13.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0
EBITDA	(2.0)	1.1	2.4	3.9	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8
% Margin	-50%	16%	24%	30%	36%	36%	36%	36%	36%	36%	36%	36%	36%	36%
Discount Rate	11.7%													
Capitalized Software / Program	\$0.0													
PV of New Program	\$24.5													

### NPV of 2017 Programs

<b>Year</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>	<b>2023</b>	<b>2024</b>	<b>2025</b>	<b>2026</b>	<b>2027</b>	<b>2028</b>	<b>2029</b>	<b>2030</b>	<b>2031</b>	<b>2032</b>
Revenue	1.0	4.0	7.0	10.0	13.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0	16.0
EBITDA	(2.5)	(2.0)	1.1	2.4	3.9	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8	5.8
% Margin	-250%	-50%	16%	24%	30%	36%	36%	36%	36%	36%	36%	36%	36%	36%	36%
Discount Rate	11.7%														
Capitalized Software / Program	\$0.0														
PV of New Program	\$19.7														

### 2017 Investor Day – 10/05/17

"It takes five years to six years for a first program in a vertical to steady state, to get to that sort of natural peak of annual enrollment. It takes four-ish years for those programs to breakeven. But as they steady state, it is our expectation that an average 2U program will generate \$16 million in top line revenue and generate mid-30s adjusted EBITDA margins."

### Oppenheimer Conference 8/10/15

"So for our first program, our cumulative net negative cash investment is typically in the range of \$10 million before we get to adjusted EBITDA and cash flow breakeven. . . launching a second, third or fourth program in the vertical however, our cumulative net negative cash investment usually falls by about half, more in the range of \$5 million. . . the roughly \$5 million to \$10 million in cumulative net negative cash flow we refer to, is not an upfront investment with additional negative cash flows expected. It is the total cash investment we expect to make to get a program to breakeven."





# The Fallacy of Steady State Revenues: 2U Guidance At Peak Enrollment

Based on 2U's filings, we interpret its guidance for each program to deliver at peak enrollment.

## 2U Model According To The Company

### TARGET ATTRIBUTES AND STEADY STATE ECONOMICS FOR A TYPICAL DGP



Avg. Tuition	\$70 - \$75k
Annual New Student Enrollments	300 - 500
Retention	82 - 84%
Total Tuition Generated	\$25-28 million

Revenue Share

Steady State Annual Revenue

2U	University
Low to mid 60 percent	Mid 30 to 40 percent
\$15-17 million	\$9-10 million
Adj. EBITDA Margin*	Surplus
\$5-6 million	\$6-7 million

### DGP TARGET STEADY STATE MARGINS\*

Total Revenue	\$100	
2U Revenue Share	60%	\$60.0
Adj. Program Marketing & Sales*	32%	19.2
Adj. Servicing & Support*	15%	9.0
Adj. Tech. & Content Development*	11%	6.6
Adj. G&A*	7%	4.2
Adj. EBITDA Margin	35%	\$21.0
University Revenue Instruction**	15%	14.6
Academic & Faculty Advising**	2%	2
Admissions/Staffing/Other**	2%	1.9
Surplus to Total Tuition	22%	\$21.6

This average model incorporates assumptions that fit the target 2U model. The faculty compensation can vary across all of the programs.

\* Percentages reflect percentages of revenue for the stated periods, and are calculated on a non-GAAP basis to exclude depreciation and amortization expense and stock-based compensation expense. See appendix for calculation of non-GAAP adjusted expense amounts and reconciliation of adjusted EBITDA to Net Loss, as applicable.

\*\* University margins are applied to total tuition generated to calculate the university surplus.

## Interpreting Steady State Guidance

	2U Steady State Guidance	
	Low	High
Avg. Tuition (2.2 Years)	\$70,000	\$75,000
Annual New Student Enrollments	480	500
Retention	82%	84%
Total FTE Students	787	840
Average Time to Complete	2.2	2.2
Annual Tuition to University (\$M)	\$25.0	\$28.6
<b>2U I/S</b>		
<b>Revenues</b>	<b>\$15.0</b>	<b>\$17.2</b>
% Take-Rate	60.0%	60.0%
<b>Operating Expenses</b>		
Marketing & Sales	4.8	5.5
% of revs	32.0%	32.0%
Servicing and Support	2.3	2.6
% of revs	15.0%	15.0%
Tech and Content Development	1.7	1.9
% of revs	11.0%	11.0%
G&A	1.1	1.2
% of revs	7.0%	7.0%
<b>Total Operating Expenses</b>	<b>9.8</b>	<b>11.2</b>
<b>EBITDA</b>	<b>5.3</b>	<b>6.0</b>
% of revs	35.0%	35.0%

# Sensitivity Analysis: Lower Take-Rates And Lower Tuitions = Margin Compression

Disruption and innovation in the distance learning market will lead to lower take-rates. Further, the commoditization of program verticals that have larger markets are now causing lower tuition rates.

## Steady State Program Analysis: Current 2U Steady State Guidance vs. Likely Future Outcomes

	2U Steady State Guidance		Future Sensitivity for Mature Programs					
	Low	High	Lower Take-Rates			Lower Tuition & Lower Take Rates		
Avg. Tuition (2.2 Years)	\$70,000	\$75,000	\$75,000	\$75,000	\$75,000	\$58,310	\$58,310	\$58,310
Annual New Student Enrollments	480	500	500	500	500	500	500	500
Retention	82%	84%	84%	84%	84%	84%	84%	84%
Total FTE Students	787	840	840	840	840	840	840	840
Average Time to Complete	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2
Annual Tuition to University (\$M)	\$25.0	\$28.6	\$28.6	\$28.6	\$28.6	\$22.3	\$22.3	\$22.3
<b>2U I/S</b>								
<b>Revenues</b>	<b>\$15.0</b>	<b>\$17.2</b>	<b>\$15.8</b>	<b>\$12.9</b>	<b>\$10.0</b>	<b>\$12.2</b>	<b>\$10.0</b>	<b>\$7.8</b>
% Take-Rate	60.0%	60.0%	55.0%	45.0%	35.0%	55.0%	45.0%	35.0%
<b>Operating Expenses</b>								
Marketing & Sales	4.8	5.5	5.5	4.5	3.5	4.3	3.6	2.8
% of revs	32.0%	32.0%	35.0%	35.0%	35.0%	35.5%	35.5%	35.5%
Servicing and Support	2.3	2.6	2.5	2.2	1.8	2.0	1.8	1.4
% of revs	15.0%	15.0%	16.0%	17.0%	18.0%	16.5%	17.5%	18.5%
Tech and Content Development	1.7	1.9	1.9	1.7	1.4	1.5	1.4	1.1
% of revs	11.0%	11.0%	12.0%	13.0%	14.0%	12.5%	13.5%	14.5%
G&A	1.1	1.2	1.1	1.0	0.9	0.9	0.9	0.7
% of revs	7.0%	7.0%	7.0%	8.0%	9.0%	7.5%	8.5%	9.5%
<b>Total Operating Expenses</b>	<b>9.8</b>	<b>11.2</b>	<b>11.0</b>	<b>9.4</b>	<b>7.6</b>	<b>8.8</b>	<b>7.5</b>	<b>6.1</b>
<b>EBITDA</b>	<b>5.3</b>	<b>6.0</b>	<b>4.7</b>	<b>3.5</b>	<b>2.4</b>	<b>3.4</b>	<b>2.5</b>	<b>1.7</b>
% of revs	35.0%	35.0%	30.0%	27.0%	24.0%	28.0%	25.0%	22.0%

Disruptors are making progress in the market and this will lead to lower industry take-rates

Commoditization of program verticals that have larger markets will lead to lower tuition rates. We are already seeing plenty of evidence of tuition compression in the MBA Vertical, which is the most important vertical to 2U with at least 5 new MBA programs launching in 2018 and 2019

Source: Company Filings and Spruce Point Estimates

Note: To hit 2U's EBITDA range requires 480 students, not the 300 depicted by management



# The Fallacy of Steady State Revenues: Lower Take-Rates Have Arrived!

We obtained the University of Illinois MBA Contract with Coursera (2U Competitor) that was signed in March of 2017.  
Coursera's take-rate is 40%.

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## 2. REVENUE SHARING: CREDIT-BEARING COURSES

- a. Revenue Sharing. Tuition (less any Tuition Waivers as permitted under Section 2(c)) will be collected by Illinois for all Degree Courses and Degree Programs, and shall be shared with Coursera in the percentages set forth below.
- i. iMBA Degree Program. Contingent on the Roadmap being completed as set forth in Attachment C, tuition revenue share for the iMBA Degree Program will be [REDACTED] to Illinois and [REDACTED] to Coursera from Degree Launch through Spring Semester 2018; and 60% to Illinois and 40% to Coursera beginning Summer 2018, and continuing for the duration of the iMBA Degree Program.

Competitor take-rate  
is 40% vs.  
"low to mid 60%"  
stated by 2U

IN WITNESS WHEREOF, the Parties have executed this Agreement as of the Effective Date.

Coursera, Inc.  
"Coursera"

The Board of Trustees of the University of  
Illinois, on behalf of its Urbana campus  
"Illinois"

By: Nikhil Sinha

By: Walter K. Knorr

Printed Name: NIKHIL SINHA

Printed Name: Walter K. Knorr

Title: CHIEF BUSINESS OFFICER

Title: Comptroller

Date: MARCH 29, 2017

Date: Bradley W Henson  
Director, Purchasing Division  
2017.04.07 16:02:04 -05'00'



# The Fallacy of Steady State Revenues – University of Illinois MBA Enrollment Grew By 274% Y/Y

We obtained the University of Illinois MBA Contract with Coursera (a rising 2U Competitor) that was signed in 2017. Coursera's take-rate is 40%. This illustrates a successful competitor disrupting 2U in its traditional MBA space.

**Green, Yen Vi**

**From:** Hart, John C  
**Sent:** Tuesday, May 15, 2018 10:30 AM  
**To:** Green, Yen Vi  
**Cc:** Fein, Adam; Hart, John C  
**Subject:** RE: FOIA 18-375

Sorry for not getting back to you sooner. We had graduation over the weekend and wrapping up a bunch of end-of-the-semester projects as well as launching summer courses. The figures you are looking for are already publicly available through DMI at in their per-semester enrollment pages.

<http://dmi.illinois.edu/stuenr/index.htm>

You can also see per-year per-program by going to:

<http://dmi.illinois.edu/cp/>

selecting the appropriate department and going to line #3801 and clicking on the linked numbers.

We do not have an MS CS Data Science. We have an MCS that has a data science track. It's enrollments are 125 and 286 for the Fall 16 and Fall 17 enrollments respectively.

For Business, select "Business" from the "Select a Major Unit" and then items in Line 4106 show enrollments for all business programs.

The iMBA's enrollments are 264 and 787 for the Fall 16 and Fall 17 enrollments respectively.

I am not showing Fall enrollments yet for the iMSA as it was only recently announced.

Hope that helps,  
-John

[Coursera recently raised capital at an \\$800M valuation](#) and has a [deep bench of advisors](#) including Yale University's former President

Total enrollments for a competitive MBA degree by Coursera grew by 274% y/y for their Fall '17 Cohort. This implies an even more impressive "new start" growth if you consider that 50% of the 264 students enrolled in Fall '16 graduated.

This is demonstrating that a lower cost (not lower quality) MBA is gaining market share and that 2U's competition can ramp a program very quickly even when they are garnering lower tuition take-rates





# The Fallacy of Steady State Revenues: New Launched MBA's Illustrate Commoditization of Programs And Falling Tuition Rates

As we have illustrated in prior slides, the Street is extrapolating past average program performance to future programs. Below we illustrate that the future MBA programs that 2U has partnered with have tuition rates that average 40% below the first three programs.

2U is clearly making a bet on the success of the MBA vertical, as they have launched or are planning on launching seven MBA programs between 2016 and 2019.

**Existing and Planned Programs by Vertical (inception - 2019)**

Vertical	Pre-2013	2013 - 2015	2016 - 2019	Total
MBA	1	2	7	10
Social Work	1	1	3	5
Business Analytics			1	1
Communications		1		1
Data Science		2	1	3
Design			1	1
Education	1		2	3
Education Behavior Analysis			1	1
Education School Counseling			1	1
Engineering			2	2
Health Informatics			1	1
Healthcare Administration		1		1
Information Science			1	1
International Relations		1		1
Legal Studies		1	1	2
Mental Health Counseling		1	1	2
Nursing	1	2	1	4
Occupational Therapy			1	1
Physical Therapy			1	1
Physician Assistant			1	1
Psychology			1	1
Public Administration		1	2	3
Public Health		1	2	3
School Counseling			1	1
School Counseling Information Science			1	1
Speech Pathology			2	2
Grammar School Counseling			1	1
<b>Total</b>	<b>4</b>	<b>14</b>	<b>37</b>	<b>55</b>

**MBA**

Program	Launch Date	2U Estimated Revenue (\$ in Millions)					18-'19 Tuition Costs	Avg Tuition
		2013	2014	2015	2016	2017		
UNC	Jul '11	9.9	14.1	16.4	20.1	26.0	\$124,345	
Syracuse University	Jan '15			4.6	17.1	19.8	\$84,186	\$96,838
American University	Oct '15			0.9	6.8	14.3	\$81,984	
Simmons College	Mar '16				0.5	2.4	\$69,360	
University of Dayton	Oct '17					0.1	\$58,050	\$58,310
University of Denver	Jan '18						\$47,520	
Rice University <sup>(1)</sup>	Jul '18							
University of California, Davis	TBD '19							
University College London	TBD '19							
Pepperdine University	TBD '19							

Investors are likely extrapolating past performance incorrectly. The MBA tuition levels at three colleges launched between March 2016 and January 2018 are at price points that are ~40% (\$38,500) lower than 2U's original three programs.

# The Fallacy of Steady State Revenues: Disruptors Are Making Significant Progress

As the OPM model (% of Tuition) has garnered success over the last decade, a new paradigm of competition (fee-for-service) is in the beginning stages of disrupting the traditional OPM landscape. We estimate that a “fee-for-service” model can replicate 2U’s offering and increase the surplus from ~21% of tuition revenues to as high as 48% as shown below.

Estimated Costs Between OPM and "Fee-For-Service" Disruptors		
Vendor	2U	Noodle
Type of Partner	Revenue "Tuition" Share	Fee for Service
Tuition	100.0%	100.0%
<b>Fees to Vendors (% of Tuition)</b>		
Partner take-rate <sup>(1)(2)</sup>	<b>60.0%</b>	6.0%
Marketing and Sales		12.5%
Servicing and Support		10.0%
Tech and Content Development		3.5%
General & Administrative		1.5%
<b>Aggregate Vendor Take-Rate (% of Tuition)</b>	60.0%	33.5%
<b>University -- Direct Expenses (% of Tuition)</b>		
Marketing & Sales	14.6%	14.6%
Servicing and Support	2.0%	2.0%
Tech and Content Development	2.0%	2.0%
<b>Total Direct Cost by University (% of Tuition)</b>	18.6%	18.6%
<b>Surplus to University (% of Tuition)</b>	21.4%	47.9%

The “fee-for-service” delivers a customized offering to a university for their online program at significant reduction in cost. In our illustration, the university keeps an additional 26% of their tuition.

Source: Company Filings, [Noodle-partners.com](https://www.noodle-partners.com)

(1) 2U's 60% take-rate includes Marketing and Sales, Servicing and Support, Tech and Content Development, and G&A

(2) Each of the line items in Noodle's service offering represent fees passed through from individual vendors



# *The Fallacy of Steady State Revenues: Disruptors Are Making Significant Progress (Cont'd)*

Noodle is winning a lot of brand name universities. Furthermore, it secured a \$100m strategic financing that allows it to go head-to-head with 2U's revenue share model. In addition, Noodle has been hiring ex-2U employees.

## Recent College Wins



Boston College Selects Noodle Partners to Build Online Master's Programs for the Lynch School of Education



Tulane University Teams with Noodle Partners to Launch New Online Master of Professional Studies in Information Technology Management



Noodle Partners Announces Partnership With Wake Forest University School of Business



Claremont Graduate University Teams With Noodle Partners To Debut Three Online Master's Programs This Fall



Mills College Launches Online MA in Educational Leadership with Noodle Partners

## Recent Strategic Financing



Noodle Partners, MassMutual, and FlowPoint Announce \$100 Million Financing Partnership

This financing partnership allows Noodle to compete directly with 2U in the case where universities still prefer a "revenue share" model and not invest upfront capital

## Poaching Quality Talent from 2U



Noodle Partners Adds Three Executives

Article by Becky Krill

Noodle Partners, which works with universities to create world-class, agile online degree programs, continues its rapid growth by adding three senior higher ed executives to its leadership team. Joining Noodle Partners are: Lee Bradshaw, who will serve as the Director of University Partnerships Feather de la Mata, who will serve as the VP of Recruitment...

Two of three executive hires made at the end of 2017 were direct hires from 2U. As former 2U employees leave to go to the disruptors, we think the street should take note



*2Us Most Successful Programs Will  
Be Difficult to Replicate*



# 2Us Most Successful Programs Will Be Difficult to Replicate: Case Study – Simmons College

2U tells investors and faculty administrators that a program partnership will net more cash flow to the university than to 2U. Our research suggests the opposite is true.

## What 2U tells administrators and Investors

[Slide 9 -- November 2017 Investor Presentation](#)

### TARGET ATTRIBUTES AND STEADY STATE ECONOMICS FOR A TYPICAL DGP



Avg. Tuition	\$70 - \$75k
Annual New Student Enrollments	300 - 500
Retention	82 - 84%
Total Tuition Generated*	\$25-28 million

Revenue Share

Steady State Annual Revenue

2U	University
Low to mid 60 percent	Mid 30 to 40 percent
\$15-17 million	\$9-10 million
Adj. EBITDA Margin**	Surplus
<b>\$5-6 million</b>	<b>\$6-7 million</b>

\*Represents the sum of tuition and fees that students in our clients' programs have paid our clients from inception through June 30, 2017, plus what we expect current students in our clients' programs to pay our clients by the time they graduate or leave their programs, adjusted for expected attrition.  
\*\*We consider interest expense, interest income, and the non-program specific portions of depreciation and amortization expense and stock-based compensation expense to be corporate expenses, and therefore we allocate those expenses to the above groupings based on our corporate allocation methodology.

9

2U states that economics for a steady state program yield more cash flow to the university than to 2U

## Spruce Point Uncovering Reality

### Simmons College Financials

(\$in millions), for the fiscal year ending June 30  
**2017**

### Simmons College Financial Statements<sup>(1)</sup>

Online Revenue Tuition and Fees	\$65.6
Partner Share of Online Revenues	44.2
2U Implied Take Rate	67.4%

### 2U<sup>(2)</sup>

Revenues, net	\$44.2
Expenses	28.3
<b>EBITDA</b>	<b>\$15.9</b>
EBITDA Margin <sup>(3)</sup>	36.0%

### University (Simmons)

Revenues, net	\$21.4
Expenses	12.1
<b>Surplus to Simmons<sup>(4)</sup></b>	<b>\$9.3</b>
Suplus Margin	43.3%

Our estimates illustrate the opposite -- 2U is likely earning 70% more than Simmons (currently 2Us second largest client)

Source: Company Filings, simmons.edu, and Spruce Point Estimates

(1) Simmons College Financials as disclosed in their annual report for the period ending June 30, 2017

(2) We estimate steady state economics for all of Simmons revenues as ~93% of revenues related to Simmons were generated by Nursing and Social Work, #2 and #3 in new student enrollment for 2017, respectively

(3) Estimated EBITDA margin for programs operating at or above steady state

(4) 2U programs at Simmons generated over \$9M of Surplus (1Q18 CC on 5/3/18)

## 2Us Most Successful Programs Will Be Difficult to Replicate: Case Study – Simmons College

Simmons College has multiple program partnerships with 2U. Currently, new student enrollment for Simmons College Masters in Nursing and Masters in Social Work represent the #2 and #3 ranked “new enrollment” programs for 2017 for all of 2U. Simmons was the 2nd program in each of these verticals following the success of Georgetown’s Nursing and USC’s Social Work programs. 2U likely knew that they had spillover demand from these two programs and needed to find a partner where they could place these students and also charge an initial tuition take-rate of ~70%. Simmons took the bait. Programs with Simmons represented 17% (~\$49M) of 2U’s 2017 revenues. Based on the aforementioned information, we believe that 2U’s success with Simmons should not be extrapolated to future programs.

### Simmons College Financials

(\$in millions), for the fiscal year ending June 30

	2014	2015	2016	2017
<b>Simmons College Financial Statements</b>				
Online Revenue Tuition and Fees	\$5.4	\$24.4	\$45.0	\$65.6
Partner Share of online revenue	3.8	16.8	30.6	44.2
<b>2U Implied Take Rate</b>	69.7%	68.9%	67.9%	67.4%

### Social Work

Program	Launch Date						New Student Enrollment Rank		
		2013	2014	2015	2016	2017	2015	2016	2017
USC	Oct '10	\$37.3	\$38.1	\$43.1	\$54.1	\$59.9	1	1	1
Simmons College	Jul '14		1.3	5.0	13.1	20.5		4	3

### Nursing (Masters)

Program	Date						New Student Enrollment Rank		
		2013	2014	2015	2016	2017	2015	2016	2017
Georgetown	Mar '11	\$13.5	\$15.4	\$13.5	\$12.6	\$13.8	8	8	9
Simmons College	Oct '13	0.3	7.1	18.7	20.5	24.8	2	2	2

We believe that 2U’s take-rate which has averaged 68% since inception with Simmons is amongst the highest for all of 2Us Partners.

As shown to the left, the USC Masters in Social Work has been an extraordinary success for 2U. Further, Georgetown Nursing is one of the best nursing programs in the nation.

2U had very good data from these initial programs in regards to total students enrolled, rejected students from these programs, as well as regional data on the prospective student population. **2U needed a university partner that would quickly understand that 2U could deliver excess demand quickly, but it would come at a steep price.** Given 2Us negotiating leverage at that point, 2U could command an extraordinarily high tuition take-rate percentage.

This was a great partnership, but we don’t believe it represents a proxy for future programs. The second school in the Social Work and Nursing verticals were almost a guaranteed success given 2U’s data. Further, the extraordinarily high tuition take-rate percentage is not representative of future programs.



## While Marketing & Student Recruitment Costs (A Major Risk Factor) Is Showing Signs of Materializing

A risk factor in the most recent 2U 10-K highlights how dependent online market efforts are to its business. Based on our analysis and third party data, we believe costs for critical keywords related to online education are rising significantly. It looks like this risk factor is coming to fruition.

*Our financial performance depends heavily on our ability to acquire qualified potential students for our offerings, and our ability to do so may be affected by circumstances beyond our control.*

Building awareness of our offerings is critical to our ability to acquire prospective students for our university clients' programs and courses and generate revenue. A substantial portion of our expenses is attributable to marketing and sales efforts dedicated to attracting potential students to our offerings. Because we generate revenue based on a portion of the tuition and fees that students pay, it is critical to our success that we identify qualified prospective students for our offerings in a cost-effective manner, and that enrolled students remain active in our offerings until graduation or completion.

The following factors, many of which are largely outside of our control, may prevent us from successfully driving and maintaining student enrollment in our offerings in a cost-effective manner or at all:

- *Negative perceptions about online learning programs.* As a non-traditional form of education delivery, prospective students will subject our offerings to increased scrutiny. Online offerings that we or our competitors provide may not be successful or operate efficiently, and new entrants to the field of online learning also may not perform well. Such underperformance could create the perception that online offerings in general are not an effective way to educate students, whether or not our offerings achieve satisfactory performance, which could make it difficult for us to successfully attract prospective students. Students may be reluctant to enroll in online programs and courses for fear that the learning experience may be substandard, that employers may be averse to hiring students who received their education online, or that organizations granting professional licenses or certifications may be reluctant to grant them based on degrees earned through online education.
- *Ineffective marketing efforts.* We invest substantial resources in developing and implementing data-driven marketing strategies that focus on identifying the right potential student at the right time. These marketing efforts make substantial use of search engine optimization, paid search and custom website development and deployment and we rely on a small number of internet search engines and marketing partners. If our execution of this strategy proves to be inefficient or unsuccessful in generating a sufficient quantity of qualified prospective students, or if the costs associated with the execution of this strategy increase, our revenue could be adversely affected.
- *Damage to university client reputation.* Because we market a specific graduate program or course to potential students, the reputations of our university clients are critical to our ability to enroll students. Many factors affecting our university clients' reputations are beyond our control and can change over time, including their academic performance and ranking among nonprofit educational institutions.
- *Lack of interest in an offering.* We may encounter difficulties attracting qualified students for graduate programs or courses that are not highly desired or that are relatively new within their

# Evidence of Marketing Costs Rising

3<sup>rd</sup> party marketing costs (paid search, display and email marketing) to generate a Full Course Equivalent (FCE) are rising as competitive intensity to recruit students rises. We are now seeing signs of deleveraging in 2U's results. To illustrate, 2017 was the first year where costs per FCE rose after a multi-year period of decline.

## Program and Marketing Costs Analysis (\$ in millions except Costs / FCE)

	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018E</u>
<b>Program and Marketing Costs</b>								
3rd Party Lead Generation Costs <sup>(1)</sup>	\$20.0	\$27.9	\$31.2	\$34.7	\$43.1	\$54.7	\$74.3	
Other Marketing Costs	12.1	17.5	22.9	30.5	39.8	51.9	76.6	
<b>Total</b>	<b>\$32.1</b>	<b>\$45.4</b>	<b>\$54.1</b>	<b>\$65.2</b>	<b>\$82.9</b>	<b>\$106.6</b>	<b>\$150.9</b>	
3rd Party Lead Generation Costs	\$20.0	\$27.9	\$31.2	\$34.7	\$43.1	\$54.7	\$74.3	
Full Course Equivalents (FCEs)	14,099	22,532	31,338	41,034	57,019	77,344	98,907	128,579
Costs / FCE <sup>(2)</sup>	\$888	\$890	\$760	\$609	\$557	\$553	\$578	
Change		0%	-15%	-20%	-8%	-1%	4%	

Early cost leverage from 2013-2015 is now completely gone by 2017

This is the first time in 2U's public history where the costs to generate an FCE are rising. This is evidence of increased competition to advertise online. Unlike typical SaaS companies, which experience scalability and operating leverage, 2U appears to be facing challenges in scaling

Source: Company Filings and Spruce Point Estimates

(1) 3rd Party Lead Generation Costs were estimated using disclosure from the MD&A

(2) 3rd Party Lead Generation Costs / Next Year's FCEs



# Our Own Work Illustrates “Paid Search” Costs Are Growing 12% to 27%

Our analysis shows that online search costs are going up 12% to 27% depending on the vertical.

MBA					
Keyword	Annualized Click Volume		Costs per Click (CPC)		'18 / '17 <sup>(1)</sup>
	June 2017	May 2018	June 2017	May 2018	
online mba	9,900	14,800	\$79.79	\$87.50	10%
best online mba programs	3,600	6,600	\$68.56	\$79.78	16%
best online mba	2,900	2,900	\$57.08	\$60.92	7%
online mba rankings	2,400	1,300	\$38.95	\$48.72	25%
online business school	320	1,900	\$70.77	\$83.61	18%
<b>Total</b>	<b>19,120</b>	<b>27,500</b>			<b>12%</b>
Nursing					
Keyword	Annualized Click Volume		Costs per Click (CPC)		'18 / '17 <sup>(1)</sup>
	June 2017	May 2018	June 2017	May 2018	
online msn programs	1,300	2,400	\$43.93	\$54.37	24%
online nursing masters programs	320	1,000	\$65.97	\$62.93	-5%
msn online	480	880	\$32.19	\$42.77	33%
best online nursing programs	390	720	\$35.31	\$56.70	61%
masters in nursing online	320	880	\$54.49	\$67.03	23%
<b>Total</b>	<b>3,820</b>	<b>8,030</b>			<b>18%</b>
Social Work					
Keyword	Annualized Click Volume		Costs per Click (CPC)		'18 / '17 <sup>(1)</sup>
	June 2017	May 2018	June 2017	May 2018	
masters in social work online	1,000	4,400	\$69.70	\$89.58	29%
msw online	880	1,900	\$47.91	\$73.84	54%
online social work degree	1,300	4,400	\$59.01	\$61.23	4%
online msw programs	1,900	3,600	\$64.46	\$81.00	26%
masters degree in social work online	170	1,300	\$57.92	\$91.35	58%
social work masters programs online	140	1,000	\$48.07	\$91.44	90%
<b>Total</b>	<b>5,690</b>	<b>18,350</b>			<b>27%</b>

(1) Total is weighted by the annualized click volume  
Source: semrush.com



*Current Consensus Revenue Estimates  
Assume “More Than” Perfection:  
30%-50% Downside Risk*



## *Limited Upside, Terrible Risk / Reward In TWOU*

Even the bullish analysts see 2U shares as near fully valued, representing a poor risk/reward. We don't believe any of the analysts have conducted extensive FOIA requests to explore how many of 2U's programs are underperforming while margin pressures creep into its business.

Broker	Recommendation	Price Target
Compass Point	Outperform	\$105.00
Baird	Buy	\$105.00
BMO Capital Markets	Outperform	\$103.00
First Analysis Corp	Overweight	\$103.00
Macquarie	Outperform	\$100.00
Barrington Research	Outperform	\$100.00
KeyBanc Capital Markets	Overweight	\$100.00
Needham & Co	Buy	\$95.00
Goldman Sachs	Neutral	\$92.00
Oppenheimer & Co	Outperform	\$91.00
Average Price Target % Upside From Current (1)		\$99.40 +6.7%

# Consensus Revenue Estimates Assume “More Than” Perfection – Imputed Consensus Model

We believe this revenue model serves as a proxy for Wall Street’s current revenue expectations. It also illustrates that the Street is expecting near flawless execution of ~84 program launches between 2016 and 2021. As [we illustrated earlier](#), 57% of the programs launched between 2013 and 2015 are underperforming.

## Revenue Model Summary (\$ in mm, except FCE estimates)

Programs		2013	2014	2015	2016	2017	2018E	2019E	2020E	2021E
<b><u>Graduate Program Segment</u></b>										
18	Mature Cohorts (2009 - 2015)	\$83.1	\$110.2	\$150.2	\$201.7	\$250.1	\$293.0	\$326.7	\$353.4	\$377.0
	y/y change		33%	36%	34%	24%	17%	12%	8%	7%
84	New Cohorts (2016 - 2021)	0.0	0.0	0.0	4.1	20.4	65.0	149.0	280.0	464.0
	y/y change					394%	219%	129%	88%	66%
<b>Total graduate program revenue</b>		<b>\$83.1</b>	<b>\$110.2</b>	<b>\$150.2</b>	<b>\$205.9</b>	<b>\$270.4</b>	<b>\$358.0</b>	<b>\$475.7</b>	<b>\$633.4</b>	<b>\$841.0</b>
<b><u>Short Course Segment</u></b>										
	Full course equivalent enrollments (FCE)					10,830	25,000	31,250	38,438	46,125
	y/y change							25%	23%	20%
	Avg revenue per FCE					\$1,507	\$1,808	\$1,989	\$2,148	\$2,299
	y/y change						20%	10%	8%	7%
<b>Short course revenue</b>						<b>\$16.3</b>	<b>\$45.2</b>	<b>\$62.2</b>	<b>\$82.6</b>	<b>\$106.0</b>
	y/y change						177%	38%	33%	28%
<b>Total revenue</b>		<b>\$83.1</b>	<b>\$110.2</b>	<b>\$150.2</b>	<b>\$205.9</b>	<b>\$286.8</b>	<b>\$403.2</b>	<b>\$537.8</b>	<b>\$716.0</b>	<b>\$947.0</b>
	Consensus						409.0	541.3	726.8	947.0
	y/y change							32%	34%	30%

[Graduate Segment Model detail on the following page](#)



# Consensus Revenue Estimates Assume “More Than” Perfection – Imputed Consensus Model

Graduate Segment Revenue Model Detail										
Revenue Model (\$ in Millions, accept FCE estimates)										
Programs	Graduate Program	2013	2014	2015	2016	2017	2018E	2019E	2020E	2021E
4	<u>Pre-2013 Cohort</u>									
	Revenues	80.7	90.7	95.1	102.1	113.1	122.5	131.4	139.7	147.0
	y/y change		12%	5%	7%	11%	8%	7%	6%	5%
	Avg./ Program	20.2	22.7	23.8	25.5	28.3	30.6	32.9	34.9	36.8
5	<u>2013 Cohort</u>									
	Revenues	2.4	16.7	33.6	44.0	54.9	66.1	74.2	80.3	86.1
	y/y change		596%	101%	31%	25%	20%	12%	8%	7%
	Avg./ Program	0.5	3.3	6.7	8.8	11.0	13.2	14.8	16.1	17.2
4	<u>2014 Cohort</u>									
	Revenues		2.8	13.4	28.5	37.9	48.3	58.0	65.2	70.6
	y/y change			379%	113%	33%	27%	20%	12%	8%
	Avg./ Program		0.7	3.4	7.1	9.5	12.1	14.5	16.3	17.6
5	<u>2015 Cohort</u>									
	Revenues			8.1	27.1	44.1	56.2	63.1	68.3	73.2
	y/y change				235%	63%	27%	12%	8%	7%
	Avg./ Program			16	5.4	8.8	11.2	12.6	13.7	14.6
6	<u>2016 Cohort</u>									
	Revenues				4.1	15.7	33.0	51.0	69.0	87.0
	y/y change					281%	111%	55%	35%	26%
	Avg./ Program				0.7	2.6	5.5	8.5	11.5	14.5
10	<u>2017 Cohort</u>									
	Revenues					4.7	25.0	55.0	85.0	115.0
	y/y change						435%	120%	55%	35%
	Avg./ Program					0.5	2.5	5.5	8.5	11.5
14	<u>2018 Cohort</u>									
	Revenues						7.0	35.0	77.0	119.0
	y/y change							400%	120%	55%
	Avg./ Program						0.5	2.5	5.5	8.5
16	<u>2019 Cohort</u>									
	Revenues							8.0	40.0	88.0
	y/y change								400%	120%
	Avg./ Program							0.5	2.5	5.5
18	<u>2020 Cohort</u>									
	Revenues								9.0	45.0
	y/y change									400%
	Avg./ Program								0.5	2.5
20	<u>2021 Cohort</u>									
	Revenues									10.0
	y/y change									
	Avg./ Program									0.5

Core Four

Mature /  
Maturing  
Cohorts

New Cohorts

Current Consensus expectations assumes flawless execution of 84 new programs

# Sum of Parts Valuation – Understanding How Much Investors Are Paying for Growth

We have assembled a sum-of-parts analysis where we separately value the mature vintages (inception to 2015), new vintages (2016 – 2017), 2U's recent Short Course Segment Acquisition (GetSmarter), and the federal NOL. This implies that the Street is currently valuing all future programs (2018 and Beyond) at ~\$3.5B – which further implies ~276 future successful programs. Not all programs announced will be successful and given our future assumptions regarding lower tuition take-rates, commoditizing tuition costs and higher expenses, 2U likely needs to announce well in excess of 400 future programs to validate its current stock price.

## Sum of Parts Valuation (\$ in Millions)

### Graduate Segment -- Mature Vintages (Inception - 2015)

Valuation Method: EBITDA Multiple

Cohort	Programs	Revenues <sup>(1)</sup>	EBITDA (\$) <sup>(2)</sup>	EBITDA (%) <sup>(2)</sup>	EBITDA Multiple	Value
Pre- 2013	4	\$113.1	\$44.1	39.0%	13.0x	\$573.6
2013	5	54.9	21.4	39.0%	13.0x	278.4
2014	4	37.9	9.5	25.0%	13.0x	123.2
2015	5	44.1	6.2	14.0%	13.0x	80.3
		<b>250.1</b>	<b>81.2</b>		<b>Total Value</b>	<b>1,055.5</b>

### Graduate Segment -- New Vintages (2016 - 2017)

Valuation Method: NPV per Program

Cohort	Programs	Revenues <sup>(1)</sup>	EBITDA (\$) <sup>(2)</sup>	EBITDA (%) <sup>(2)</sup>	NPV / Program <sup>(3)</sup>	Value
2016	6	\$15.7	(\$61.5)	(392.2%)	\$24.5	\$147.0
2017	10	4.7	(18.3)	(392.2%)	19.7	197.0
		<b>20.4</b>	<b>(79.8)</b>		<b>Total Value</b>	<b>344.0</b>

### Short Course Segment (i.e. GetSmarter Acquisition)

Valuation Method: Revenue Multiple

	Revenues <sup>(4)</sup>	Revenue Multiple	Value
2017 Revenues	\$24.0	8.0x	\$192.1
		<b>Total Value</b>	<b>192.1</b>

### Federal NOL

Valuation Method: Current NOL x Current Federal Corporate Tax Rate (i.e. undiscounted)

	Amount	Tax Rate	Value
NOL @ 12/31/17	253.2	21%	\$53.2
		<b>Total Value</b>	<b>53.2</b>

### Future Programs (2018 and Beyond) -- Imputed Value

Valuation Method: NPV per Program

Cohort	Successful Programs	NPV / Program <sup>(3)</sup>	Value
2018 - 20??	276	\$12.7	\$3,504.7
		<b>Implied Value</b>	<b>\$3,504.7</b>

## Summary -- Sum of Parts Valuation

<b>Current Market Capitalization</b>	<b>\$5,662.0</b>
<b>Less:</b>	
Graduate Segment -- Mature Vintages (Inception - 2015)	\$1,055.5
Graduate Segment -- New Vintages (2016 - 2017)	344.0
Short Course Segment	192.1
Federal NOL	53.2
Cash	512.6
<b>= Future Programs (2018 and Beyond) -- Imputed Value</b>	<b>3,504.7</b>

2U's current valuation implies that investors are paying +\$3.5B for their future prospects. **We believe the NPV value of their future prospects could be less than \$1B**

Source: Bloomberg, Company Filings and Spruce Point Estimates

(1) Revenue for each cohort are Spruce Point Estimates

(2) EBITDA Margins for each cohort were disclosed in the 4Q17 presentation on 2/26/18 and are applied to our Cohort Revenue Estimates

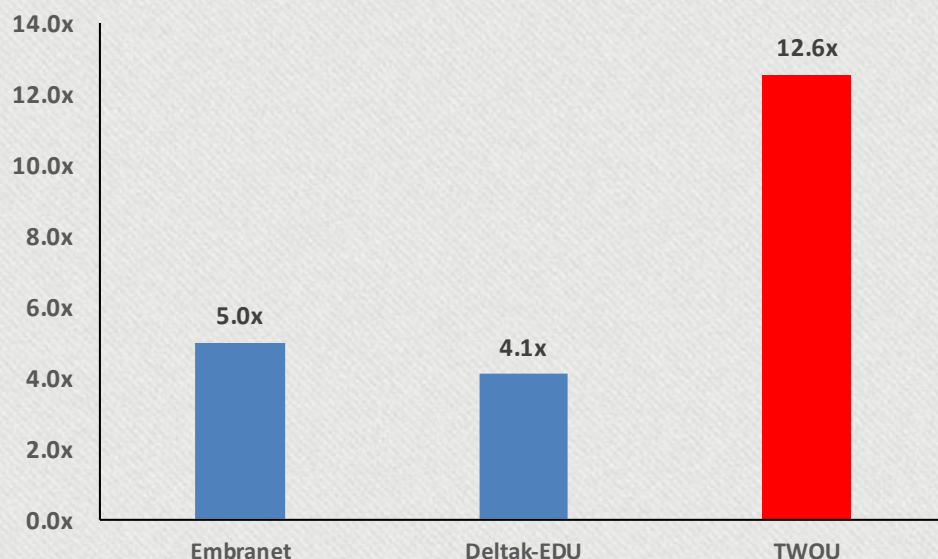
(3) NPV / Program is illustrated [here](#)

(4) GetSmarter 2017 revenues were imputed from the pro forma disclosure in the FY17 10K



# Precedent Transactions Point To A Much Lower Multiple Business

2U currently trades at 12.6x 2018E Revenues. Embanet and Deltak.edu, two of 2U's most direct OPM competitors, were acquired in 2012 at 5.0x and 4.1x revenues, respectively, when we believe the industry was in a more nascent stage and growing faster. Given our documented concerns about intensifying competition, we believe any investor owning 2U shares at these elevated valuation carries multiple contraction risk.



\$ in mm

Precedent Transaction		
Date	10/16/2012	10/25/2012
Target	Embanet	Deltak.edu
Acquiror	Pearson	John Wiley
Ticker	NYSE: PSO	NYSE: JW/A
Deal Value	\$650.0	\$220.0
Revenues	\$130.0	\$54.0
<b>EV/Revenues</b>	<b>5.0x</b>	<b>4.1x</b>

# Peer Group Comparison

2U is the highest valued “Cloud based SaaS” company. 2U is currently priced for perfection and we believe the stock will re-rate as downward estimate revisions come to fruition as well as the realization that the EBITDA margin profile will never mature similar to its SaaS peer group.

(\$ in millions, except per share figures)

Name	Ticker	Stock Price 7/18/2018	% of 52-wk High	EV	Revenue Growth			EBITDA Margin			FCF Margin LTM	Enterprise Value / Sales			Dividend Yield
					2017	2018E	2019E	2017	2018E	2019E		2017	2018E	2019E	
Cloud Based SAAS Peers															
LOGMEIN INC	LOGM	\$109.65	81%	\$5,360	204.7%	18.7%	7.8%	36.4%	36.7%	38.1%	30.0%	5.2x	4.4x	4.1x	1.1%
ZENDESK INC	ZEN	\$60.45	100%	\$5,900	38.0%	32.6%	28.5%	2.1%	6.9%	9.1%	5.3%	13.7x	10.3x	8.0x	0.0%
TWILIO INC - A	TWLO	\$63.96	103%	\$5,818	43.9%	36.1%	23.5%	-0.3%	2.1%	5.1%	1.4%	14.6x	10.7x	8.7x	0.0%
NEW RELIC INC	NEWR	\$111.27	100%	\$6,017	36.0%	31.0%	25.3%	2.3%	11.3%	11.9%	2.7%	18.2x	13.9x	11.1x	0.0%
HUBSPOT INC	HUBS	\$134.10	94%	\$4,925	38.6%	30.8%	24.4%	6.5%	8.9%	10.7%	9.0%	13.1x	10.0x	8.1x	0.0%
ELLIE MAE INC	ELLI	\$104.47	89%	\$3,357	15.8%	19.6%	17.7%	29.4%	26.1%	29.8%	7.5%	8.0x	6.7x	5.7x	0.0%
COUPA SOFTWARE INC	COUP	\$66.91	101%	\$3,550	40.1%	28.0%	20.0%	-3.1%	-0.6%	2.2%	10.2%	19.6x	15.3x	12.7x	0.0%
CHEGG INC	CHGG	\$29.29	98%	\$3,096	0.4%	19.2%	21.9%	18.2%	25.7%	28.5%	11.4%	12.1x	10.2x	8.4x	0.0%
PAYLOCITY HOLDING CORP	PCTY	\$65.45	100%	\$3,317	26.4%	23.2%	21.5%	20.4%	21.8%	23.8%	15.7%	9.9x	8.1x	6.6x	0.0%
CORNERSTONE ONDEMAND INC	CSOD	\$54.21	101%	\$3,047	13.9%	5.8%	9.6%	12.9%	17.9%	23.0%	12.6%	6.3x	6.0x	5.4x	0.0%
FINANCIAL ENGINES INC	FNGN	\$44.95	100%	\$2,625	13.3%	7.1%	9.1%	33.5%	33.4%	34.0%	26.5%	5.5x	5.1x	4.7x	0.7%
Q2 HOLDINGS INC	QTWO	\$62.30	98%	\$2,527	29.1%	22.7%	23.2%	5.3%	9.3%	11.4%	0.3%	13.0x	10.6x	8.6x	0.0%
APPFOLIO INC - A	APPF	\$64.50	94%	\$2,158	36.2%	26.6%	23.3%	19.6%	22.4%	25.4%	17.4%	15.0x	11.9x	9.6x	0.0%
ALARM.COM HOLDINGS INC	ALRM	\$44.06	89%	\$2,057	29.8%	13.1%	11.9%	21.1%	21.6%	22.6%	10.3%	6.1x	5.4x	4.8x	0.0%
8X8 INC	EGHT	\$21.55	93%	\$1,855	16.1%	17.8%	21.1%	4.1%	-2.9%	1.6%	0.1%	6.5x	5.6x	4.6x	0.0%
MINDBODY INC - CLASS A	MB	\$43.40	95%	\$1,857	31.4%	36.5%	25.9%	4.9%	1.4%	4.6%	1.4%	10.2x	7.5x	5.9x	0.0%
BENEFITFOCUS INC	BNFT	\$37.65	102%	\$1,248	10.0%	-0.5%	12.2%	7.6%	3.3%	7.3%	-3.9%	4.9x	4.9x	4.4x	0.0%
SPS COMMERCE INC	SPSC	\$75.68	96%	\$1,146	14.1%	10.2%	9.8%	14.8%	18.2%	19.8%	8.8%	5.2x	4.7x	4.3x	0.0%
LIVEPERSON INC	LPSN	\$22.75	94%	\$1,324	-1.8%	10.4%	11.8%	8.4%	9.4%	10.9%	-2.9%	6.0x	5.5x	4.9x	0.0%
CHANNELADVISOR CORP	ECOM	\$14.90	95%	\$349	8.2%	6.8%	7.0%	3.7%	6.1%	7.8%	-3.3%	2.9x	2.7x	2.5x	0.0%
Max					204.7%	36.5%	28.5%	36.4%	36.7%	38.1%	30.0%	19.6x	15.3x	12.7x	1.1%
Average					32.2%	19.8%	17.8%	12.4%	14.0%	16.4%	8.0%	9.8x	8.0x	6.7x	0.9%
Min					-1.8%	-0.5%	7.0%	-3.1%	-2.9%	1.6%	-3.9%	2.9x	2.7x	2.5x	0.7%
2U INC	TWOU	\$93.16	94%	\$5,149	39.3%	42.6%	32.4%	4.0%	4.2%	5.3%	-13.0%	18.0x	12.6x	9.5x	0.0%

Source: Bloomberg, Company Filings and Spruce Point Estimates

Financials have been calendarized for comparative purposes

Peer Group includes companies from 2U's compensation peer group in its [proxy](#) filed on April 30, 2018



# Sum of Parts Valuation Implies 30% To 50% Downside Risk

2U is one of the highest valued “Cloud based SaaS” companies. As Investors conclude that the competitive landscape is going to make future programs wins more difficult in addition to not being as profitable to 2U, we believe the stock could re-rate to ~\$47 representing up to 50% downside from current levels.

Valuation Ranged	Current	High	Base <sup>(1)</sup>	Low <sup>(1)</sup>
Graduate Segment -- Mature Vintages (Inception - 2015)	\$1,055.5	\$1,055.5	\$1,055.5	\$1,055.5
Graduate Segment -- New Vintages (2016 - 2017)	344.0	344.0	344.0	344.0
Short Course Segment	192.1	192.1	192.1	192.1
Federal NOL	53.2	53.2	53.2	53.2
Value of Existing Franchise (without growth)	<b>\$1,644.7</b>	<b>\$1,644.7</b>	<b>\$1,644.7</b>	<b>\$1,644.7</b>
<b>Value of Future Programs</b>				
Aggregate Number of Successful Future Programs	276	150	150	100
NPV / Program	\$12.7	\$12.7	\$7.4	\$7.4
<b>Future Programs Value(2018 and Beyond):</b>	<b>\$3,504.1</b>	<b>\$1,904.40</b>	<b>\$1,114.23</b>	<b>\$742.82</b>
<b>Total Enterprise Value</b>	<b>\$5,148.8</b>	<b>\$3,549.1</b>	<b>\$2,759.0</b>	<b>\$2,387.6</b>
<b>Less Net Debt (cash)</b>	(512.6)	(512.6)	(512.6)	(512.6)
<b>Implied Market Cap</b>	<b>5,661.4</b>	<b>4,061.7</b>	<b>3,271.5</b>	2,900.1
<b>Diluted Shares</b>	60.8	60.8	60.8	60.8
<b>Price Target</b>	<b>\$93.15</b>	<b>\$66.83</b>	<b>\$53.83</b>	<b>\$47.72</b>
<i>Upside/ Downside</i>		-28%	-42%	-49%
Ent. Value / 2018E Sales	12.6x	8.7x	6.7x	5.8x

With student acquisition costs increasing (i.e. marketing cost) and a realization amongst investors that “the install base” needs to be replenished every 2 years (i.e. students graduate out of the programs), a mid-range peer multiple of 5.0x to 7.0x revenues is likely



## *Appendix: Methodology And FOIAs*



# Estimates By Program -- Methodology

Revenues by Program Methodology -- Cohort Revenues, Platform Retention, and Client Concentration Data							
Year	2011	2012	2013	2014	2015	2016	2017
<b>Graduate Revenues</b>							
Total	\$29.7	\$55.9	\$83.1	\$110.2	\$150.2	\$205.9	\$270.4
<b>Cohort Y/Y Changes -- MD&amp;A</b>							
Pre-2013			\$24.2	\$9.4	\$5.1	\$7.0	\$11.0
2013			2.4	14.3	16.9	10.4	10.9
2014				2.8	10.6	15.1	9.4
2015					8.1	19.0	17.0
2016						4.1	11.6
2017							4.7
Rebate Liability			0.6	0.6	(0.7)	0.0	0.0
<b>Total Revenues by Cohort</b>							
Pre-2013 <sup>(1)</sup>	\$29.7	\$55.9	\$80.7	\$90.7	\$95.1	\$102.1	\$113.1
2013			2.4	16.7	33.6	44.0	54.9
2014				2.8	13.4	28.5	37.9
2015					8.1	27.1	44.1
2016						4.1	15.7
2017							4.7
<b>Platform Revenue Retention Rate</b>							
Platform Revenue Retention Rate <sup>(2)</sup>	127.1%	157.0%	144.4%	112.4%	120.2%	123.0%	
# of programs in Comparison	1	2	4	4	9	12	
<b>Client Concentration Data</b>							
<b>Schools (%)</b>							
USC	94%	78%	69%	55%	43%	34%	27%
Georgetown <sup>(3)</sup>				14%	<10%		
UNC				13%	12%	11%	10%
Simmons				8%	16%	18%	17%
Syracuse <sup>(4)</sup>							<10%
<b>Schools (\$)</b>							
USC (Pre 2013(2), 2016)	\$27.9	\$43.6	\$57.3	\$61.1	\$65.2	\$71.0	\$77.4
Georgetown (Pre 2013)			13.5	15.4	14.6		
UNC (Pre 2013, 2013)			10.4	14.6	18.0	22.6	28.7
Simmons (2013, 2014(2))				8.8	24.0	37.1	48.7
Syracuse (2015 (2), 2016 (2), 2017(2))							27.8

Before estimating revenues at the program level, we first created a historical revenue model from 2011 to 2015 using 2U's MD&A disclosure in the 2015 10K. We therefore, were able to impute the revenues for each cohort from 2U's inception to 2015. For 2016, we used the platform retention rate of 123% which implied ~\$33M of increased y/y revenues applied to the Pre-2013, 2013, and 2014 Cohort. The rest of the cohort data was assembled by year using data and estimates on the following pages. Anything in red in the exhibit on the right is an estimate based on our work and diligence. Anything in black is not an estimate and was either a reported number or derived from a reported number.

Source: Company Filings and Spruce Point Estimates

(1) The change in revenues from changes in the rebate liability were applied to the Pre-2013 Cohort

(2) The platform revenue retention rate reported for 2016 of 123% implied \$33M of increased revenues applied to the Pre-2013, 2013, and 2014 Cohort

(3) For the 9M15, Georgetown revenues were 10% of revenues. Therefore we assume that total Georgetown for FY15 were 9.7% of total FY15 revenues

(4) For the 9M17, Syracuse revenues were \$20.3M (10% of revs). Therefore we assume that total Syracuse revenues were 9.7% of total FY17 revenues

# Estimates By Program – Methodology

## 2015 Program Estimates

### 2015 Top Ten Programs Based On New Student Enrollment <sup>(1)</sup>

University	2U-Enabled GP	Vertical	GP Launch Date	Cohort	Rank	\$	Student Enrolled		FOIA <sup>(2)</sup>
							New	Total	
USC	<a href="#">MSW@USC</a>	Social Work	October 2010	Pre-2013	1	43.1	1106	1907	
Simmons College	<a href="#">Nursing@Simmons</a>	Nursing	October 2013	2013	2	18.7	700	1350	
USC	<a href="#">USC Rossier Online</a>	Education	April 2009	Pre-2013	3	22.1	700	2095	
George Washington	<a href="#">MPH@GW</a>	Public Health	June 2013	2013	4	9.1	475	625	
Simmons College	<a href="#">SocialWork@Simmons</a>	Social Work (MSW)	July 2014	2014	5	5.0	350	350	
Syracuse University	<a href="#">MBA@Syracuse</a>	Business	January 2015	2015	6	4.6	350	350	
UNC	<a href="#">MBA@UNC</a>	Business	July 2011	Pre-2013	7	16.4	350	731	341
Georgetown	<a href="#">Nursing@Georgetown</a>	Nursing	March 2011	Pre-2013	8	13.5	350	921	
Berkeley	<a href="#">datascience@berkeley</a>	Data Science	January 2014	2014	9	2.7	90	150	
Washington University in St. Louis	<a href="#">@WashULaw</a>	Legal Studies	January 2013	2013	10	1.7	80	115	

### 2015 Revenues per Program Estimates

University	2U-Enabled GP	Vertical	GP Launch Date	Cohort	2015		15/16	Credits	Tuition	Enrollment	
					Rank	\$				New	Total
USC	<a href="#">USC Rossier Online</a>	Education	April 2009	Pre-2013	3	22.1	1,664	28	\$46,598	700	2,095
USC	<a href="#">MSW@USC</a>	Social Work	October 2010	Pre-2013	1	43.1	1,664	60	\$99,852	1,106	1,907
Georgetown	<a href="#">Nursing@Georgetown</a>	Nursing	March 2011	Pre-2013	8	13.5	1,799	36	\$64,761	350	700
UNC	<a href="#">MBA@UNC</a>	Business	July 2011	Pre-2013	7	16.4	1,510	66	\$99,675	350	731
						<b>95.1</b>					
Washington University in St. Louis	<a href="#">@WashULaw</a>	Legal Studies	January 2013	2013	10	1.7	2,045	24	\$49,073	90	150
UNC	<a href="#">MPA@UNC</a>	Public Administration	January 2013	2013		1.7	1,173	45	\$52,800		
American University	<a href="#">International Relations</a>	International Relations	May 2013	2013		2.5	1,705	36	\$61,388		
George Washington	<a href="#">MPH@GW</a>	Public Health	June 2013	2013	4	9.1	1,434	45	\$64,529	475	625
Simmons College	<a href="#">Nursing@Simmons</a>	Nursing	October 2013	2013	2	18.7	1,274	48	\$61,152	700	1,350
						<b>33.6</b>					
Berkeley	<a href="#">datascience@berkeley</a>	Data Science	January 2014	2014	9	2.7	2,116	27	\$57,135	80	115
George Washington	<a href="#">MHA@GW</a>	Healthcare	April 2014	2014		5.3	1,491	50	\$74,558		
Simmons College	<a href="#">SocialWork@Simmons</a>	Social Work (MSW)	July 2014	2014	5	5.0	970	65	\$63,050	350	350
Simmons College	<a href="#">Nursing@Simmons (2)</a>	Nursing	November 2014	2014		0.3	0	0	\$0		
						<b>13.4</b>					
Syracuse University	<a href="#">MBA@Syracuse</a>	Business	January 2015	2015	6	4.6	1,388	54	\$74,952	350	350
Southern Methodist	<a href="#">DataScience@SMU</a>	Data Science	January 2015	2015		0.9	1,546	34	\$51,777		
Northwestern University	<a href="#">Counseling@Northwest</a>	Mental Health	March 2015	2015		0.9	0	0	\$0		
Syracuse University	<a href="#">Communications@Syr</a>	Communications	July 2015	2015		0.9	1,749	33	\$57,703		
American University	<a href="#">MBA@American</a>	Business	October 2015	2015		0.9	1,489	48	\$71,488		
						<b>8.1</b>					

To estimate 2015 revenues per program, we used the following data and estimates:

- Our [revenue cohort estimates](#) for 2015
- 2015 revenues by school disclosed in company filings
- 2015 top ten programs by new student enrollment
- Tuition data (credits to complete degree and cost per credit) obtained on school websites where available
- UNC enrollment data (from FOIA request)

### 2015 Revenues by School

USC (Pre 2013(2), 2016)	65.2
Georgetown (Pre 2013)	14.6
UNC (Pre 2013, 2013)	18.0
Simmons (2013, 2014(2))	24.0
Syracuse (2015 (2), 2016 (2), 2017(2))	NA

Source: Company Filings and Spruce Point Estimates

(1) Top ten programs were disclosed in the 4Q15 transcript on 2/26/16

(2) Obtained via UNC FOIA request. Calendar year 2015 starts were 341



# Estimates By Program – Methodology

## 2016 Program Estimates

### 2016 Top Ten Programs Based On New Student Enrollment <sup>(1)</sup>

University	2U-Enabled GP	Vertical	GP Launch Date	Cohort	Rank	\$	Student Enrolled		FOIA <sup>(2)</sup>
							New	Total	
USC	<a href="#">MSW@USC</a>	Social Work	October 2010	Pre-2013	1	54.1	1000	2300	479
Simmons College	<a href="#">Nursing@Simmons</a>	Nursing	October 2013	2013	2	20.5	750	1450	
Syracuse University	<a href="#">MBA@Syracuse</a>	Business	January 2015	2015	3	17.1	725	1100	
Simmons College	<a href="#">SocialWork@Simmons</a>	Social Work (MSW)	July 2014	2014	4	13.1	600	900	
George Washington	<a href="#">MPH@GW</a>	Public Health	June 2013	2013	5	13.0	500	850	
UNC	<a href="#">MBA@UNC</a>	Business	July 2011	Pre-2013	6	20.1	479	850	
USC	<a href="#">USC Rossier Online</a>	Education	April 2009	Pre-2013	7	15.4	475	1400	
Georgetown	<a href="#">Nursing@Georgetown</a>	Nursing	March 2011	Pre-2013	8	12.6	425	800	
American University	<a href="#">MBA@American</a>	Business	October 2015	2015	9	6.8	250	400	
Berkeley	<a href="#">datascience@berkeley</a>	Data Science	January 2014	2014	10	7.9	200	270	

### 2016 Revenues per Program Estimates

University	2U-Enabled GP	Vertical	GP Launch Date	Cohort	2016 Rank	\$	16/17	Credits	Tuition	Enrollment	
										New	Total
USC	<a href="#">USC Rossier Online</a>	Education	April 2009	Pre-2013	7	15.4	1,731	28	\$48,462	475	1,400
USC	<a href="#">MSW@USC</a>	Social Work	October 2010	Pre-2013	1	54.1	1,731	60	\$103,846	1,000	2,300
Georgetown	<a href="#">Nursing@Georgetown</a>	Nursing	March 2011	Pre-2013	8	12.6	1,927	36	\$69,385	425	800
UNC	<a href="#">MBA@UNC</a>	Business	July 2011	Pre-2013	6	20.1	1,586	66	\$104,659	479	850
						<b>102.1</b>					
Washington University in St. Louis	<a href="#">@WashULaw</a>	Legal Studies	January 2013	2013		4.4	2,147	24	\$51,527		375
UNC	<a href="#">MPA@UNC</a>	Public Administration	January 2013	2013		2.5	1,173	45	\$52,800		210
American University	<a href="#">International Relations Online</a>	International Relations	May 2013	2013		3.6	1,790	36	\$64,457		250
George Washington	<a href="#">MPH@GW</a>	Public Health	June 2013	2013	5	13.0	1,506	45	\$67,755	500	850
Simmons College	<a href="#">Nursing@Simmons</a>	Nursing	October 2013	2013	2	20.5	1,300	48	\$62,400	750	1,450
						<b>44.0</b>					
Berkeley	<a href="#">datascience@berkeley</a>	Data Science	January 2014	2014	10	7.9	2,222	27	\$59,991	200	270
George Washington	<a href="#">MHA@GW</a>	Healthcare	April 2014	2014		4.0	1,566	50	\$78,286		
Simmons College	<a href="#">SocialWork@Simmons</a>	Social Work (MSW)	July 2014	2014	4	13.1	990	65	\$64,350	600	900
Simmons College	<a href="#">Nursing@Simmons (2)</a>	Nursing	November 2014	2014		3.5	0	0	\$0		
						<b>28.5</b>					
Syracuse University	<a href="#">MBA@Syracuse</a>	Business	January 2015	2015	3	17.1	1,443	54	\$77,922	725	1,100
Southern Methodist	<a href="#">DataScience@SMU</a>	Data Science	January 2015	2015		1.2	1,623	34	\$54,366		100
Northwestern University	<a href="#">Counseling@Northwestern</a>	Mental Health	March 2015	2015		1.5	0	0	\$0		
Syracuse University	<a href="#">Communications@Syracuse</a>	Communications	July 2015	2015		0.5	1,818	33	\$59,990		
American University	<a href="#">MBA@American</a>	Business	October 2015	2015	9	6.8	1,564	48	\$75,063	250	400
						<b>27.1</b>					
Simmons College	<a href="#">Simmons Enterprise Program</a>	Business	March 2016	2016		0.5	1,333	48	\$64,000		
USC	<a href="#">Nursing@USC</a>	Nursing	September 2016	2016		1.6	1,731	49	\$84,808		
NYU	<a href="#">Speech Pathology Program</a>	Speech Pathology	September 2016	2016		0.5	1,596	48	\$76,608		
NYU	<a href="#">School Counseling Program</a>	gram School	September 2016	2016		0.5	1,596	48	\$76,608		
Syracuse	<a href="#">iSchool@Syracuse</a>	Information Science	October 2016	2016		0.5	1,429	42	\$60,000		
Syracuse	<a href="#">Engineering@Syracuse</a>	Engineering	October 2016	2016		0.5	1,429	30	\$42,857		
						<b>4.1</b>					

To estimate 2016 revenues per program, we used the following data and estimates:

- Our [revenue cohort assumptions](#) for 2016
- 2016 revenues by school disclosed in company filings
- 2016 top ten programs by new student enrollment
- Tuition data (credits to complete degree and cost per credit) obtained on schools websites where available
- UNC enrollment data (from FOIA request)

### 2016 Revenues by School

USC (Pre 2013(2), 2016)	71.0
Georgetown (Pre 2013)	NA
UNC (Pre 2013, 2013)	22.6
Simmons (2013, 2014(2))	37.1
Syracuse (2015 (2), 2016 (2), 2017(2))	NA

Source: Company Filings and Spruce Point Estimates

(1) Top ten programs were disclosed in the 1Q17 company presentation on March 6, 2017

(2) Obtained via UNC FOIA request. Calendar year 2015 starts were 479

# Estimates By Program – Methodology

## 2017 Program Estimates

**2017 Top 15 Programs Based on New Student Enrollment <sup>(1)</sup>**

University	2U-Enabled GP	Vertical	GP Launch Date	Cohort	Rank	\$	Student Enrolled <sup>(2)</sup>		FOIA <sup>(3)</sup>
							New	Total	
USC	MSW@USC	Social Work	October 2010	Pre-2013	1	59.9	1100	2,450	490
Simmons College	Nursing@Simmons	Nursing	October 2013	2013	2	24.8	850	1,700	
Simmons College	SocialWork@Simmons	Social Work (MSW)	July 2014	2014	3	20.5	800	1,350	
UNC	MBA@UNC	Business	July 2011	Pre-2013	4	26.0	525	950	
Syracuse University	MBA@Syracuse	Business	January 2015	2015	5	19.8	500	1,225	
George Washington	MPH@GW	Public Health	June 2013	2013	6	16.5	500	1,025	1 year prgm
USC	USC Rossier Online	Education	April 2009	Pre-2013	7	13.4	500	1,175	
American University	MBA@American	Business	October 2015	2015	8	14.3	450	800	
Georgetown	Nursing@Georgetown	Nursing	March 2011	Pre-2013	9	13.8	425	850	
Berkeley	datascience@berkeley	Data Science	January 2014	2014	10	12.4	250	400	
NYU	Speech Pathology Program	Speech Pathology	September 2016	2016	11	4.0	225	250	
Washington University in St. Louis	WashU Law	Legal Studies	January 2013	2013	12	4.9	200	400	
Southern Methodist	DataScience@SMU	Data Science	January 2015	2015	13	4.5	175	350	
Syracuse	iSchool@Syracuse	Information Science	October 2016	2016	14	3.6	150	250	
Simmons College	Simmons Enterprise Program	Multiple Programs	March 2016	2016	15	2.4	100	158	

**2017 Revenues per Program Estimates**

University	2U-Enabled GP	Vertical	GP Launch Date	Cohort	2017				Enrollment		
					Rank	\$	17/18 Credits	Tuition	New	Total	
USC	USC Rossier Online	Education	April 2009	Pre-2013	7	13.4	1,800	28	\$50,400	500	1,175
USC	MSW@USC	Social Work	October 2010	Pre-2013	1	59.9	1,800	60	\$108,000	1100	2450
Georgetown	Nursing@Georgetown	Nursing	March 2011	Pre-2013	9	13.8	1,995	36	\$71,820	425	850
UNC	MBA@UNC	Business	July 2011	Pre-2013	4	26.0	1,728	66	\$114,078	525	950
					<b>113.1</b>						
Washington University in St. Louis	WashU Law	Legal Studies	January 2013	2013	12	4.9	2,254	24	\$54,103	200	400
UNC	MPA@UNC	Public Administration	January 2013	2013	2	2.7	1,173	45	\$52,800		
American University	International Relations Online	International Relations	May 2013	2013		6.0	1,880	36	\$67,680		
George Washington	MPH@GW	Public Health	June 2013	2013	6	16.5	1,581	45	\$71,143	500	1025
Simmons College	Nursing@Simmons	Nursing	October 2013	2013	2	24.8	1,345	48	\$64,560	850	1700
					<b>54.9</b>						
Berkeley	datascience@berkeley	Data Science	January 2014	2014	10	12.4	2,333	27	\$62,991	250	400
George Washington	MHA@GW	Healthcare	April 2014	2014		4.1	1,644	50	\$82,200	150	150
Simmons College	SocialWork@Simmons	Social Work (MSW)	July 2014	2014	3	20.5	1,030	65	\$66,950	800	1350
Simmons College	Nursing@Simmons (2)	Nursing (no Bachelors)	November 2014	2014		1.0	0	0			
					<b>37.9</b>						
Syracuse University	MBA@Syracuse	Business	January 2015	2015	5	19.8	1,500	54	\$81,000	500	1225
Southern Methodist	DataScience@SMU	Data Science	January 2015	2015	13	4.5	1,704	34	\$57,084	175	350
Northwestern University	Counseling@Northwestern	Mental Health	March 2015	2015		4.6	0	0	\$100,000	95	250
Syracuse University	Communications@Syracuse	Communications	July 2015	2015		1.0	1,890	33	\$62,359		
American University	MBA@American	Business	October 2015	2015	8	14.3	1,642	48	\$78,816	450	800
					<b>44.1</b>						
Simmons College	Simmons Enterprise Program	Business	March 2016	2016	15	2.4	1,400	48	\$67,200	100	158
USC	Nursing@USC	Nursing	September 2016	2016		2.5	1,800	49	\$88,200		125
NYU	Speech Pathology Program	Speech Pathology	September 2016	2016	11	4.0	1,660	48	\$79,680	225	250
NYU	School Counseling Program	gram School Counseling	September 2016	2016		0.7	1,660	48	\$79,680		
Syracuse	iSchool@Syracuse	Information Science	October 2016	2016	14	3.6	1,500	42	\$63,000	150	250
Syracuse	Engineering@Syracuse	Engineering	October 2016	2016		2.5	1,500	30	\$45,000		
					<b>15.7</b>						
George Washington	HealthInformatics@GW	Health Informatics	January 2017	2017		0.2					
Syracuse	ExecutiveMPA@Syracuse	Public Administration	July 2017	2017		0.5					
USC	Design@USC (3)	Design	August 2017	2017		1.6					
Vanderbilt	Peabody Online	Education	September 2017	2017		0.4					
Pepperdine	Law@Pepperdine	Legal Studies	September 2017	2017		0.4					
New York	OT@NYU	Occupational Therapy	September 2017	2017		0.4					
New York	Counseling for Mental Health	Mental Health	September 2017	2017		0.4					
Syracuse	DataScience@Syracuse (3)	Data Science	October 2017	2017		0.4					
of Dayton	MBA@Dayton	Business	October 2017	2017		0.1	0	0	\$0		115
Pepperdine	Psychology@Pepperdine	Psychology	October 2017	2017		0.1					
					<b>4.7</b>						

To estimate 2017 revenues per program, we used the following data and estimates:

- 2017 revenues by school disclosed in company filings
- 2017 top 15 programs by new student enrollment
- Tuition data (credits to complete degree and cost per credit) obtained on schools websites where available
- UNC enrollment data (from FOIA request)

**2017 Revenues by School**

USC (Pre 2013(2), 2016)	77.4
Georgetown (Pre 2013)	NA
UNC (Pre 2013, 2013)	28.7
Simmons (2013, 2014(2))	48.7
Syracuse (2015 (2), 2016 (2), 2017(2))	27.8

Source: Company Filings and Spruce Point Estimates

(1) Top 15 programs were disclosed in the 4Q17 company presentation on 2/26/18

(2) Top 7 programs were each above 500 new student enrollments and Berkeley was just under 274 (disclosed on 4Q17 conference call on 2/26/18)

(3) Obtained via UNC FOIA request. Calendar year starts were 490



# Estimates By Program – Methodology Summary

Summary detail of the results of our methodology for estimating revenue for each individual program.

University	2U-Enabled GP	Vertical	GP Launch Date	Revenue Estimate					Enrollment			Cost	Ranking		
				2013	2014	2015	2016	2017	New		Total		2015	2016	2017
									2015	2016	2017				
USC	USC Rossier Online	Education	April 2009	20.0	23.0	22.1	15.4	13.4	700	475	500	\$50,400	3	7	7
USC	MSW@USC	Social Work	October 2010	37.3	38.1	43.1	54.1	59.9	1,106	1,000	1,100	\$108,000	1	1	1
Georgetown	Nursing@Georgetown	Nursing	March 2011	13.5	15.4	13.5	12.6	13.8	350	425	425	\$71,820	8	8	9
UNC	MBA@UNC	Business	July 2011	9.9	14.1	16.4	20.1	26.0	350	479	525	\$114,078	7	6	4
Washington University in St. Louis	@WashUlaw	Legal Studies	January 2013	0.3	2.7	1.7	4.4	4.9	90	0	200	\$56,808	10		12
UNC	MPA@UNC	Public Administration	January 2013	1.1	1.7	1.7	2.5	2.7	0	0	0	\$52,800			
American University	International Relations Online	International Relations	May 2013	0.3	2.7	2.5	3.6	6.0	0	0	0	\$67,680			
George Washington	MPH@GW	Public Health	June 2013	0.3	2.7	9.1	13.0	17.7	475	500	500	\$71,143	4	5	6
Simmons College	Nursing@Simmons	Nursing	October 2013	0.3	7.1	18.7	20.5	24.8	700	750	850	\$66,480	2	2	2
Berkeley	datascience@berkeley	Data Science	January 2014		0.5	2.7	7.9	12.4	80	200	250	\$62,991	9	10	10
George Washington	MHA@GW	Healthcare Administration	April 2014		0.5	5.3	4.0	4.1	0	0	150	\$82,200			
Simmons College	SocialWork@Simmons	Social Work (MSW)	July 2014		1.3	5.0	13.1	20.5		600	800	\$66,950	5	4	3
Simmons College	Nursing@Simmons (2) -- no bachelors	Nursing	November 2014		0.4	0.3	3.5	1.0				\$0			
Syracuse University	MBA@Syracuse	Business	January 2015			13.4	19.4	23.5	350	725	500	\$81,000		3	5
Southern Methodist	DataScience@SMU	Data Science	January 2015			0.9	1.2	4.7			175	\$57,084			13
Northwestern University	Counseling@Northwestern	Mental Health Counseling	March 2015			0.9	0.5	1.0			0				
Syracuse University	Communications@Syracuse	Communications	July 2015			0.9	0.5	1.0			0	\$62,359	6		
American University	MBA@American	Business	October 2015			0.9	6.8	15.4		250	450	\$78,816		9	8
Simmons College	Simmons Enterprise Program	Business	March 2016				0.2	2.4			75	\$67,200			15
USC	Nursing@USC	Nursing	September 2016				1.6	2.5			0	\$88,200			
NYU	Speech Pathology Program	Speech Pathology	September 2016				0.2	5.0			225	\$79,680			11
NYU	School Counseling Program	gram School Counseling	September 2016				0.2	0.7			0	\$79,680			
Syracuse	ISchool@Syracuse	Information Science	October 2016				0.2	2.0			100	\$63,000			14
Syracuse	Engineering@Syracuse	Engineering	October 2016				0.2	0.7				\$45,000			
George Washington	HealthInformatics@GW	Health Informatics	January 2017					0.2				\$0			
Syracuse	ExecutiveMPA@Syracuse	Public Administration	July 2017					0.3				\$0			
USC	Design@USC (3)	Design	August 2017					1.6				\$0			
Vanderbilt	Peabody Online	Education	September 2017					0.4				\$81,984			
Pepperdine	Law@Pepperdine	Legal Studies	September 2017					0.4				\$0			
New York	OT@NYU	Occupational Therapy	September 2017					0.4				\$0			
New York	Counseling for Mental Health	Mental Health Counseling	September 2017					0.4				\$0			
Syracuse	DataScience@Syracuse (3)	Data Science	October 2017					0.3				\$0			
University of Dayton	MBA@Dayton	Business	October 2017					0.1				\$58,050			
Pepperdine	Psychology@Pepperdine	Psychology	October 2017					0.1				\$0			

## UNC Chapel Hill

- [UNC – MBA](#)
- [UNC – MPA](#)
- [UNC – MPH](#)
- [UNC Enrollment](#)

## University of Illinois

- [MBA](#)

## University of California, Berkeley

- [Data Science](#)

## Maryland Department of Commerce

- [Headquarters Contract](#)