

Accelerated Master's Programs at Michigan Tech

Dr. Pushpa Murthy

Associate Provost and Dean, Graduate School



Michigan Tech.

Policy

The Dean of the Graduate school will report to the Senate on

- the number of accelerated master's programs,
 - enrollment in these programs,
 - the number of enrolled master's students who received their undergraduate degree from Michigan Tech and
 - the number of these that are in accelerated master's programs.
- In addition, this report will include a comparison with the data from previous years.



21 Programs

Accounting
Biological Sciences
Biomedical Engineering
Business Administration (MBA)
Chemical Engineering
Chemistry
Civil Engineering
Computer Engineering
Computer Science
Cybersecurity
Data Science

Electrical Engineering
Engineering Mechanics
Environmental Engineering
Forestry (Master of Forestry)
Geographic Information Science
Integrated Geospatial Technology
Kinesiology
Materials Science and Engineering
Mechanical Engineering
Medical Informatics



Enrollment 2014 -2016

Accelerated Programs	Fall 2014	Fall 2015	Fall 2016
Accounting	-	3	4
Biological Sciences	-	-	0
Biomedical Engineering	3	1	2
Business Administration (MBA)	1	0	3
Chemical Engineering	3	1	2
Chemistry	-	0	0
Civil Engineering	6	12	14
Computer Engineering	0	1	5
Computer Science	-	1	2
Cybersecurity	-	-	-
Data Science	-	-	-

Accelerated Programs	Fall 2014	Fall 2015	Fall 2016
Electrical Engineering	2	3	9
Engineering Mechanics	1	0	0
Environmental Engineering	2	3	2
Forestry (Master of Forestry)	-	0	0
Geographic Information Science	0	3	0
Integrated Geospatial Technology	-	0	0
Kinesiology	-	4	1
Materials Science and Engineering	3	3	3
Mechanical Engineering	11	11	22
Medical Informatics	-	-	0
Total Accelerated Enrollment	32	46	69

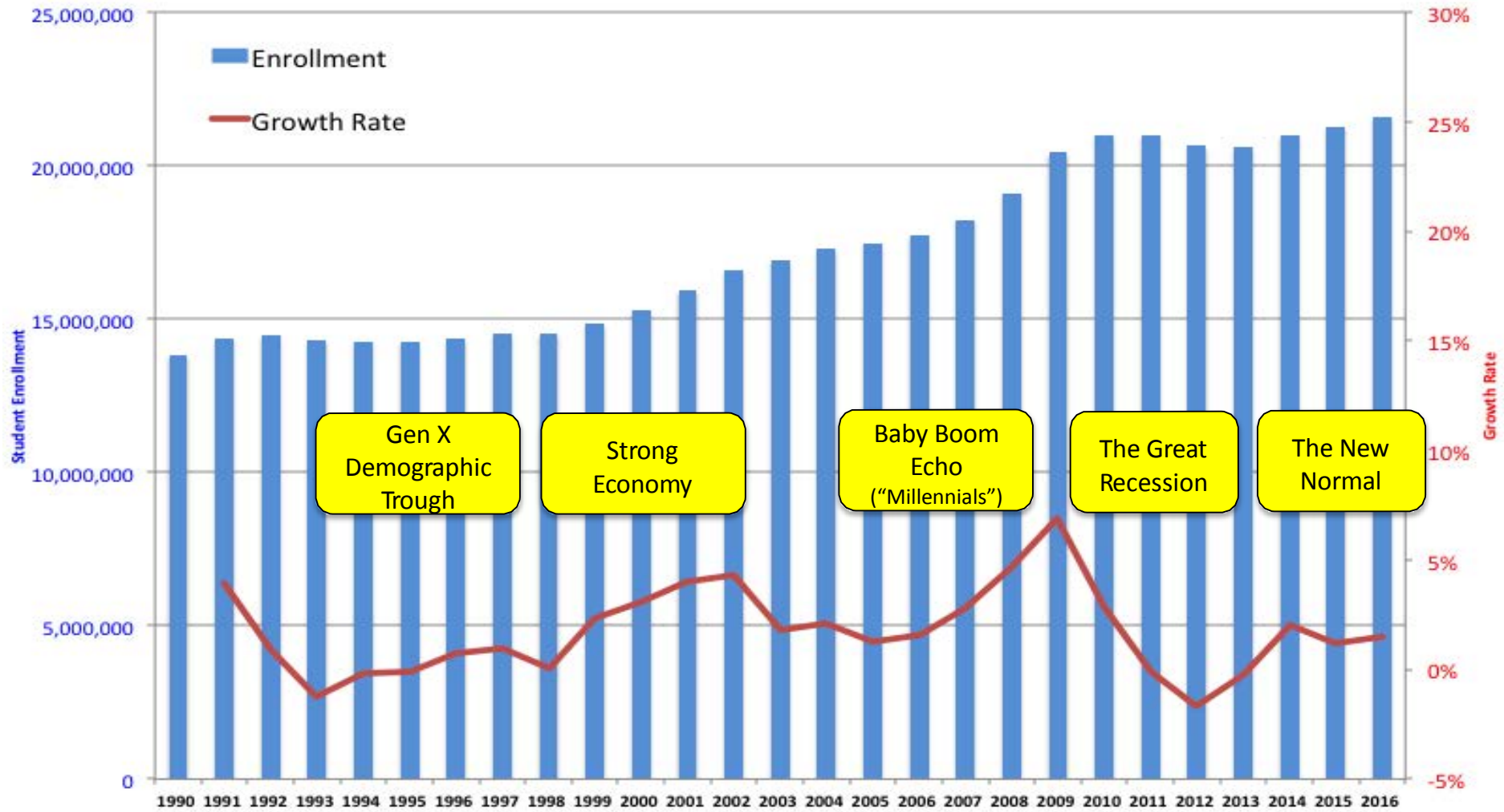


Number of Enrolled Master's and Accelerated Master's Students

Fall Semester	Master's Students w/o MTU Bachelor's	Master's Students with MTU Bachelor's (Not Accelerated)	Master's Students with MTU Bachelor's (Accelerated)	Total Master's Students	Accelerated MS students as a % of total MS students with MTU Bachelor's
2014	672	139	32	843	18.71%
2015	749	145	46	940	24.08%
2016	706	132	69	907	34.33%



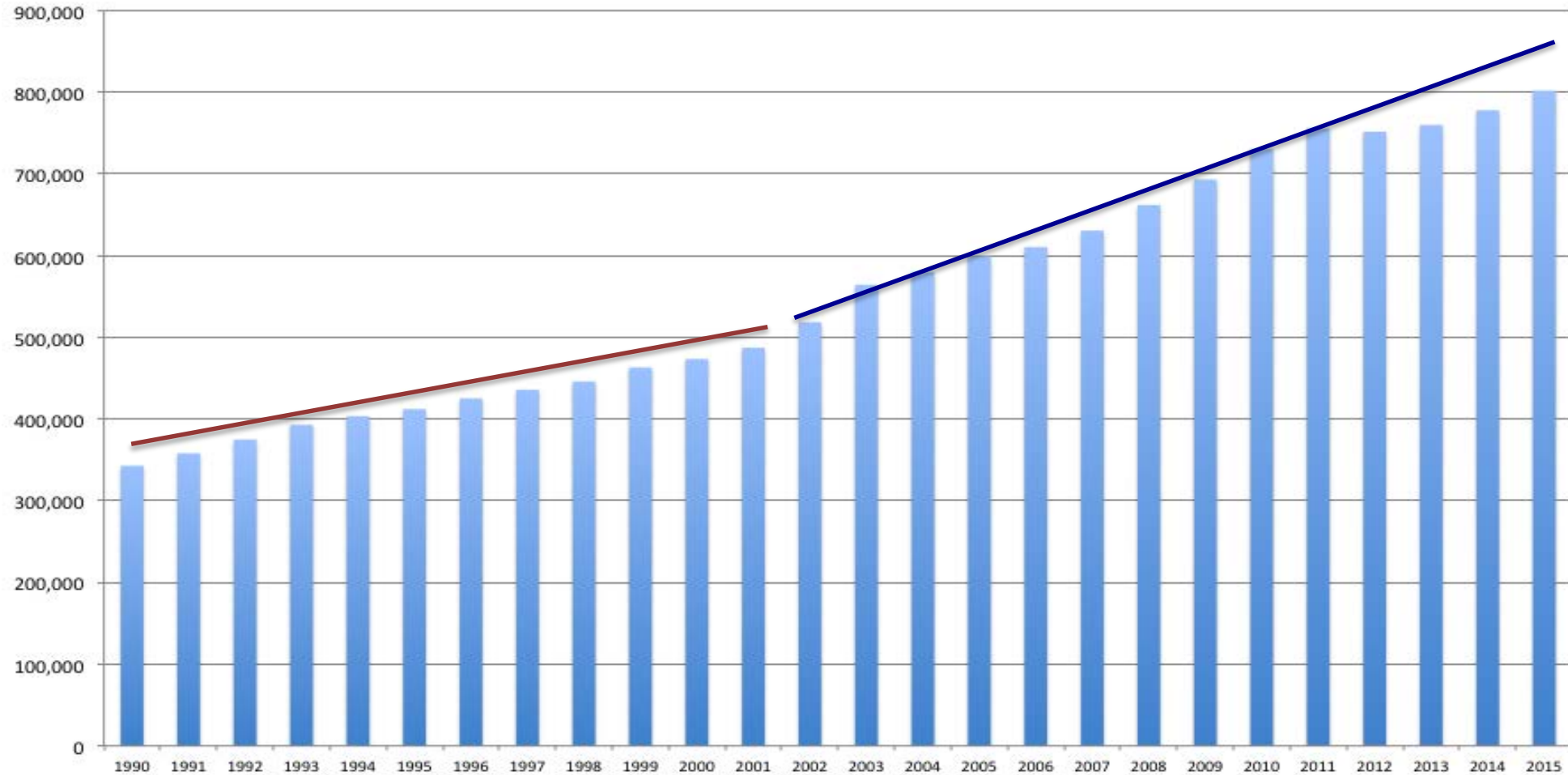
The Big Picture: 25 Years of Generally Rising Higher Ed Demand



Source: U.S. Department of Education NCES, 2015



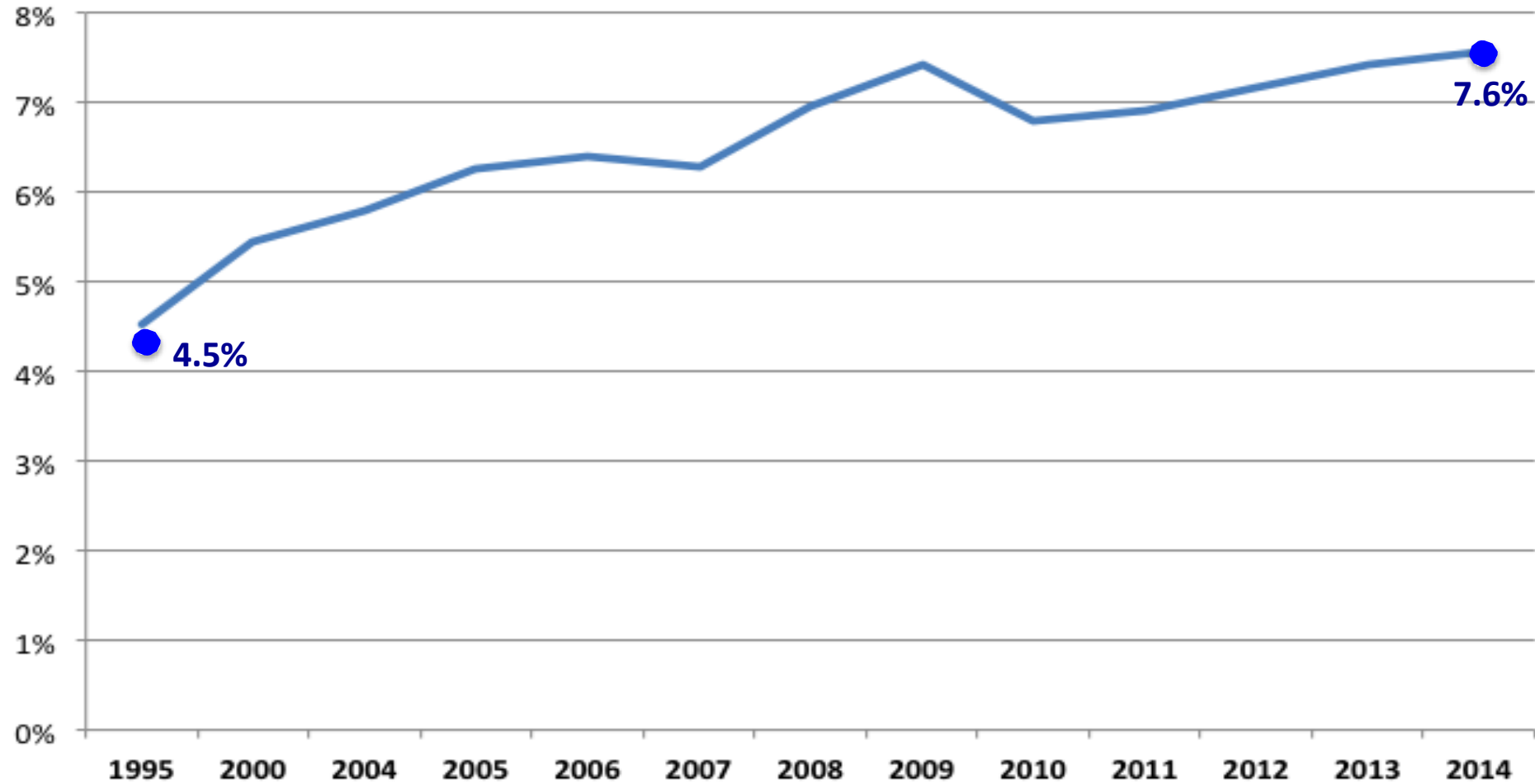
75% Growth in Master's Degrees Conferrals Since 2000



Source: U.S. Department of Education NCES, 2016



Master's Degree Attainment Among 25-29 Year Olds Has Nearly Doubled Over the Last 20 Years



Source: U.S. Department of Education NCES, 2015



Evolving Student Preferences: 75% of Entering Freshmen Report They Intend to Earn an Advanced Degree



Source: UCLA HERI CIRP, 2015



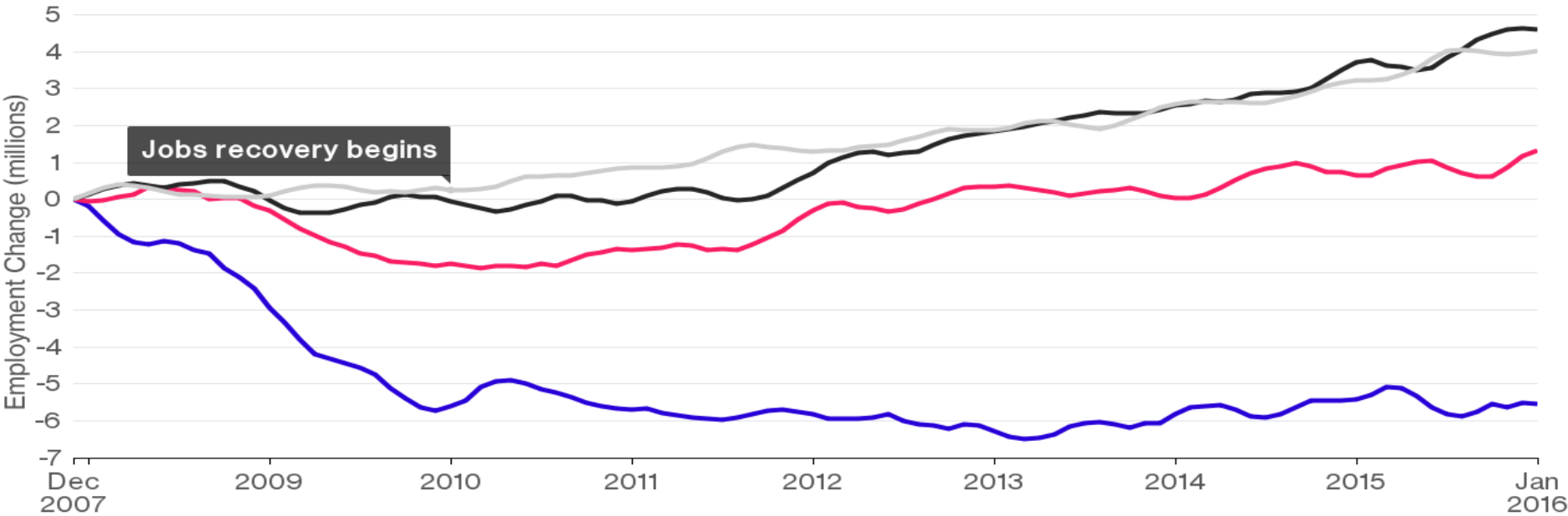
Graduate-level Job Creation has kept pace with Bachelor-level

No College Graduate Left Behind

Study shows most jobs created since recession went to high-skilled college grads



■ High school or less ■ Associate's or some college ■ Bachelor's ■ Master's or higher



Source: Georgetown University Center on Education and the Workforce, Current Population Survey
Note: Seasonally adjusted numbers



Source: Georgetown Center for Education & the Workforce (graphic published by Bloomberg)



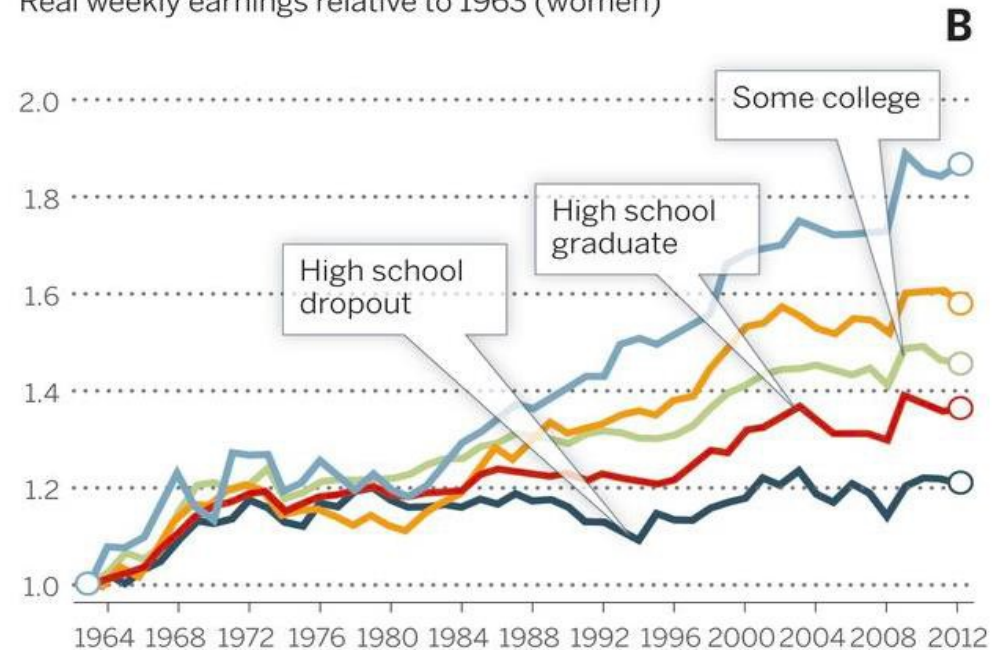
All of the Growth in the “College Wage Premium” Since 2000 is Due to Advanced Degrees

Changes in real wage levels of full-time U.S. workers by sex and education, 1963–2012

Real weekly earnings relative to 1963 (men)



Real weekly earnings relative to 1963 (women)



Science

Source: David Autor, Science, 2014

David Autor,
“Skills, education, and the rise of earnings
inequality among the “other 99 percent”

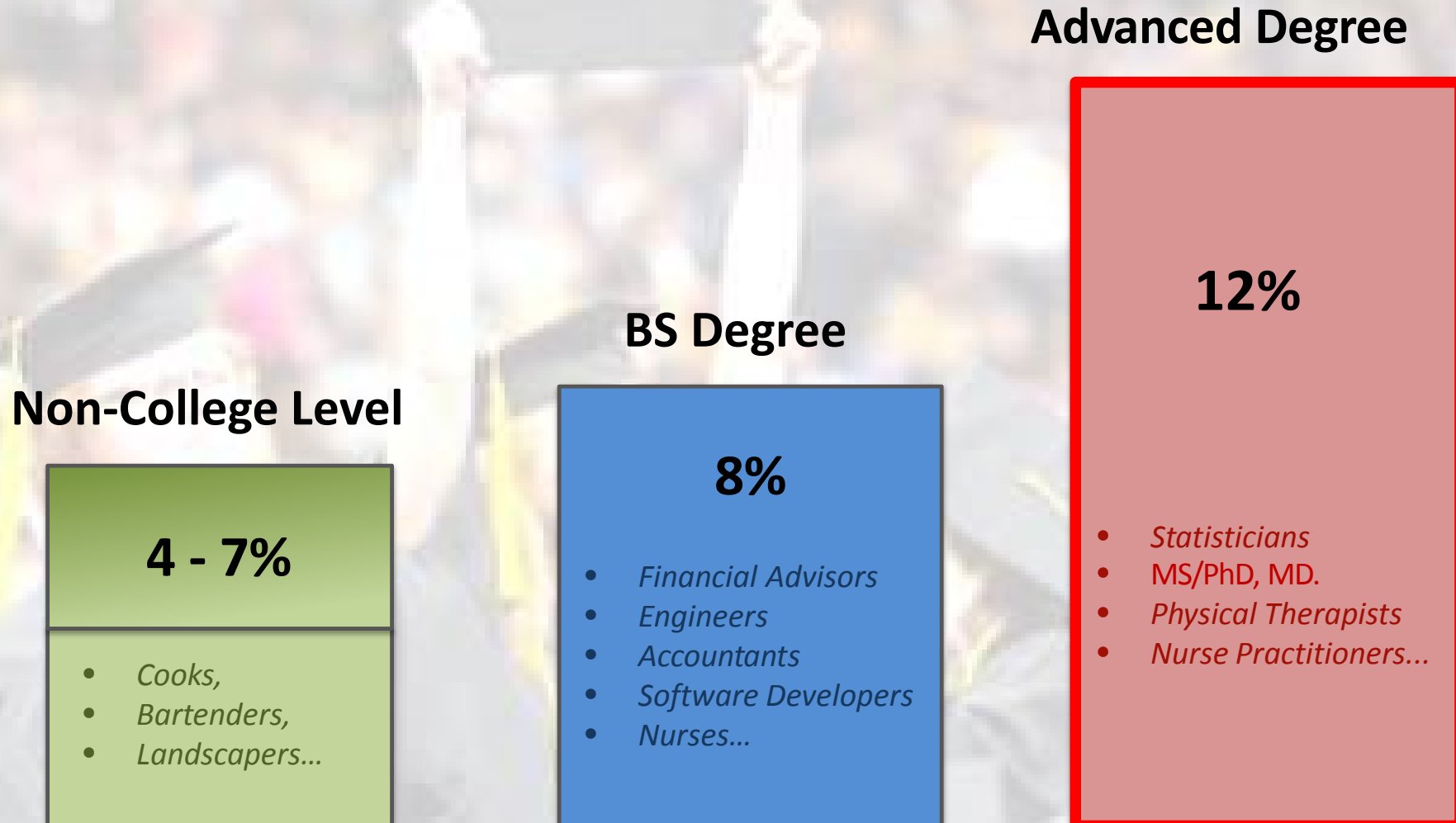
May 23, 2014

5 April 2017



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Occupations Typically Requiring a Grad Degree for Entry are Forecast to Grow the Fastest through 2024



5 April 2017



National Survey of 2,300
Hiring & HR Managers
2016

- **32%** of employers increased their educational requirements over past year - 60% because skills had evolved
- **27%** hiring employees with master's degrees for positions previously at bachelor's level
- Employers who raised requirements reported *as a result:*
 - + Quality work: **57%**
 - + Productivity: **43%**
 - + Communication: **38%**
 - + Innovation: **37%**
 - + Employee retention: **32%**



“20 years ago, nobody had advanced degrees. People have realized that... oftentimes it will get you that interview, and it’s a differentiator.”

“For many roles, these days it’s almost like bachelor’s degrees are table stakes. Master’s degrees are what separate you. You’re going to need that to break out from the pack.”

“As a general qualification the master’s has become the de facto requirement at management levels and above.”



Bachelor's Degrees is the Floor; Master's Degrees are Differentiation in the Career Ladder

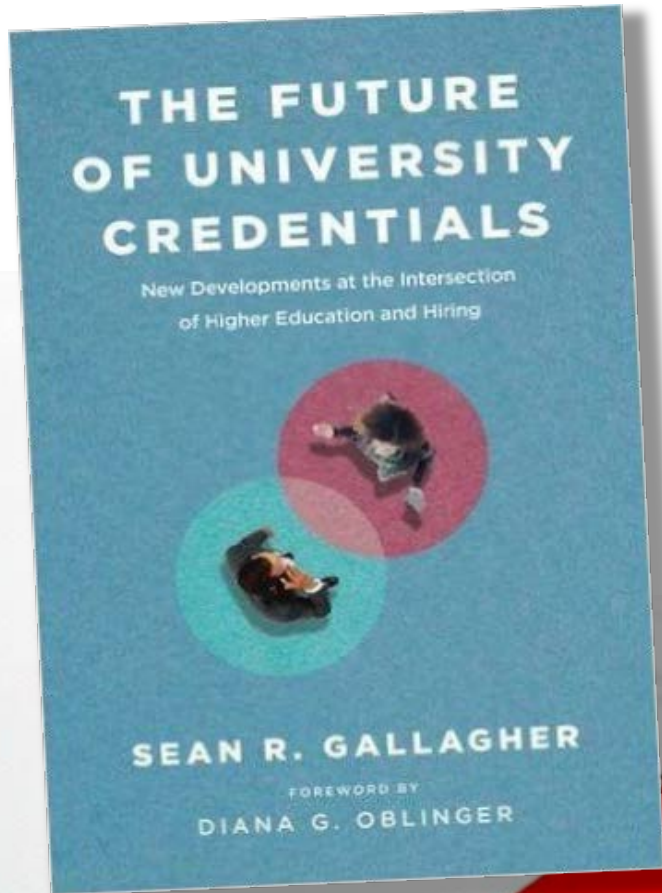
- Preference vs. requirement
- Condition of entry to LDPs



Top *Skills* Desired By Employers

- Communication
- Writing
- Research
- Leadership
- Teamwork / Collaboration
- Project Management
- Critical Thinking
- Problem Solving
- Intercultural Competency





Dr. Sean R. Gallagher

Chief Strategy Officer

sr.gallagher@neu.edu

617-373-5756

Twitter: [@HiEdStrat](https://twitter.com/HiEdStrat) 



**Available
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THANK YOU!

Questions??



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