



What About Certificates?

Evidence on the Labor Market Returns to Non-Degree Community College Awards in Two States

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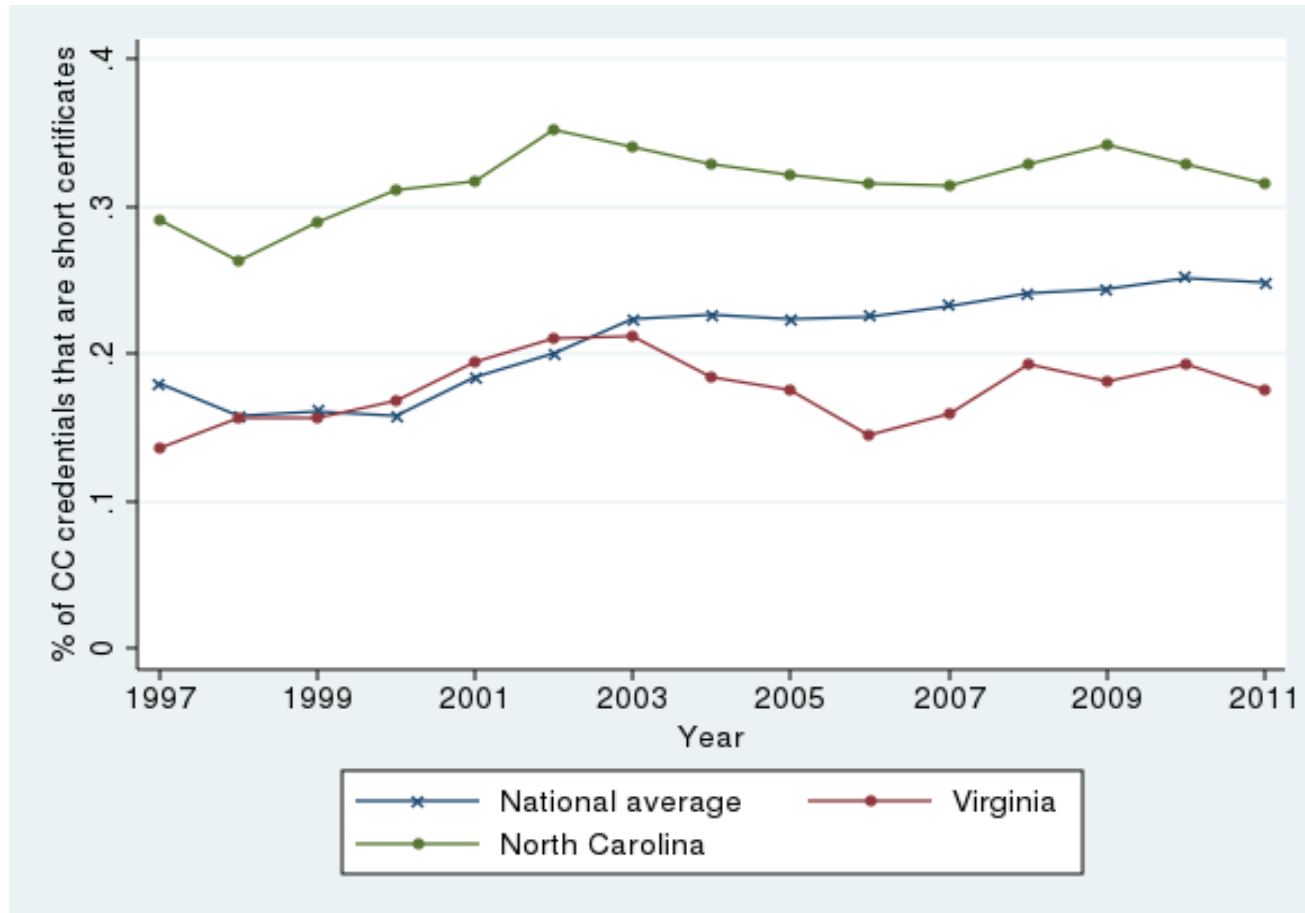
Certificates: Why do we care?

- In general, we think of certificates as non-degree awards
 - “Short-term certificates” : < 1 year of full-time study
 - “Long-term certificates” : \geq 1 year of full-time study
- A substantial proportion of awards from community colleges are certificates as of 2011:
 - 38% nationally
 - 46% in North Carolina
 - 29% in Virginia

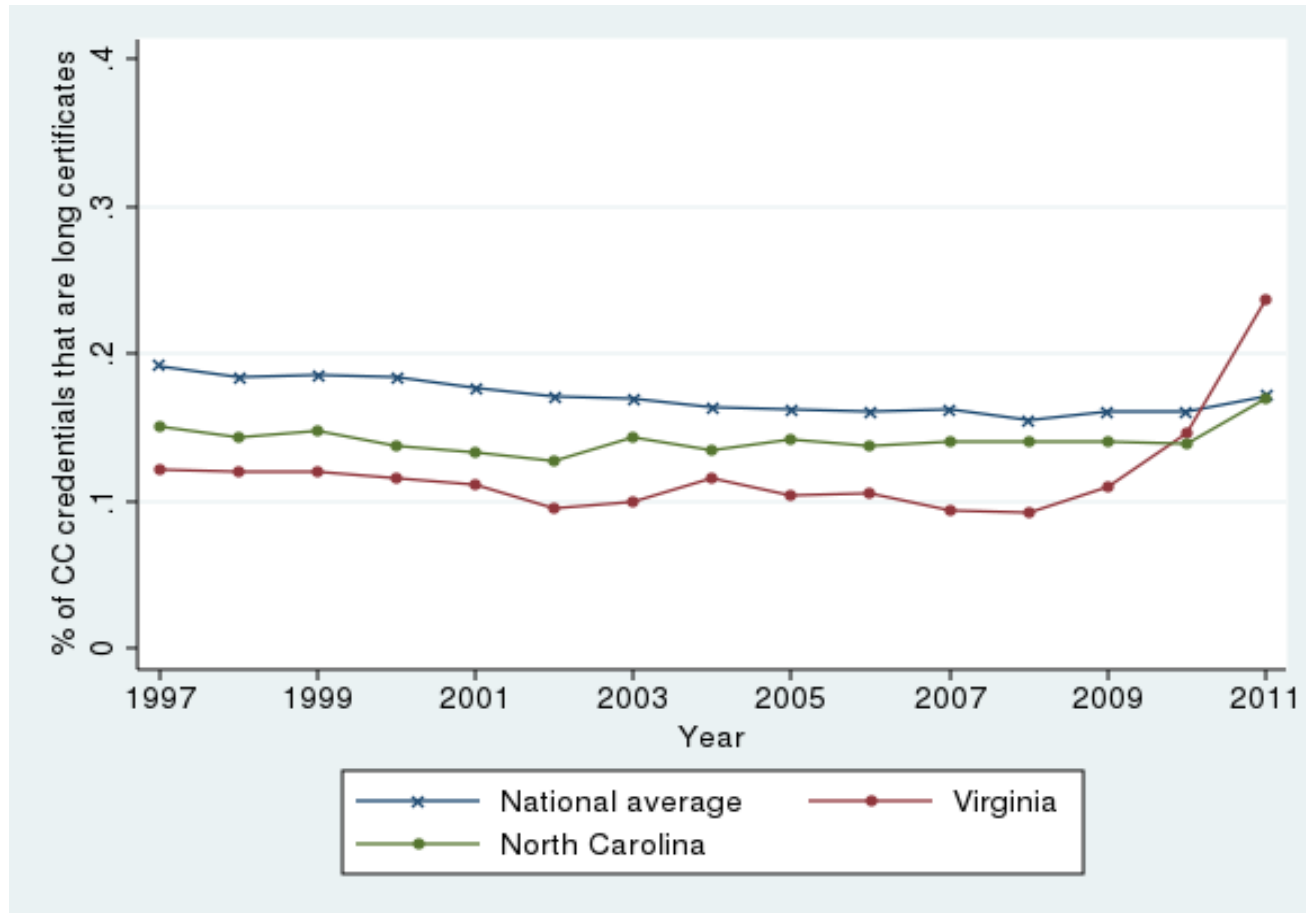
Certificates: Why do we care?

- Relatively little rigorous research on returns to certificates so far
 - especially differentiating short-term and long-term certs (Jepsen, Troske, & Coomes; Complete College America; Dadgar & Weiss)
- Certificates are often cited as a solution for worker retraining: do they work?
 - Are certificate earners likelier to gain employment?
 - Once employed, do they earn more than they would otherwise?

Trends in short-term certificates



Trends in long-term certificates



Research Questions

- What are the economic returns to long-term and short-term certificates?
- How do the returns to certificates vary by field of study?
- Do the returns to certificates also substantially vary by program within a particular field?

Data

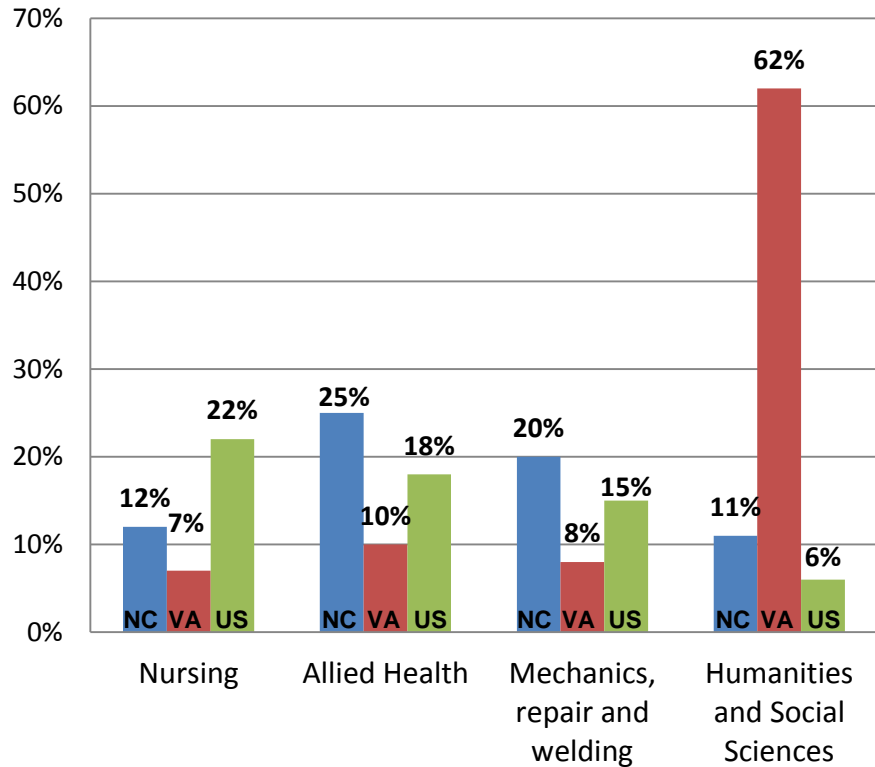
- Similar data from both states:
 - Transcript data
 - Credential data
 - Demographic data
 - Unemployment Insurance data
 - UI data from VA has *VA, MD, NJ, OH, PA, WC, DC*
 - UI data from NC is North Carolina only

Sample

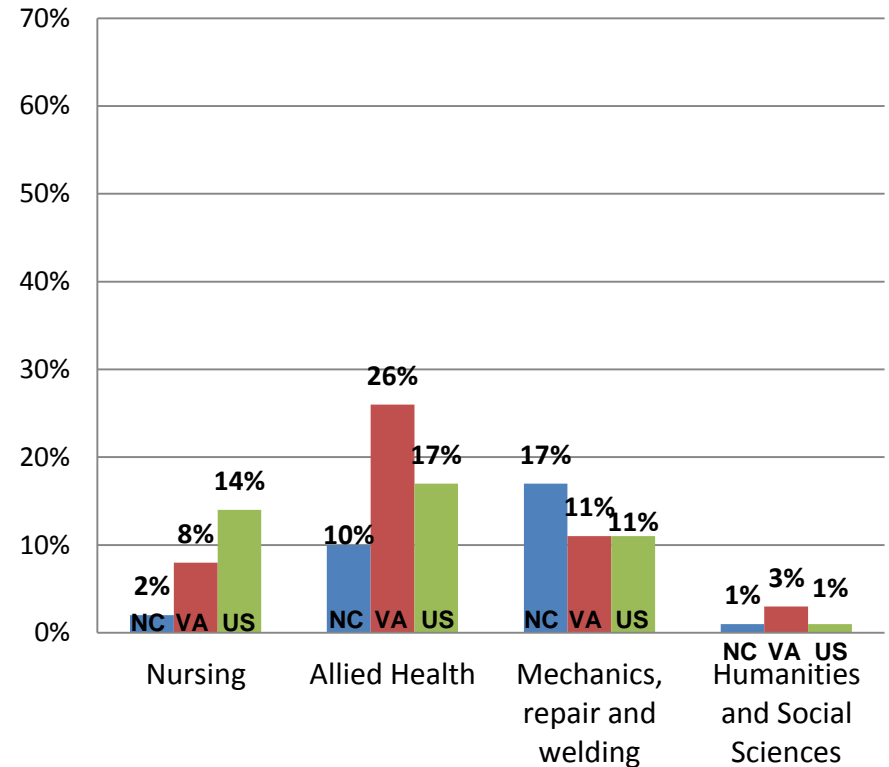
- North Carolina: 2006-07 and 2007-08 first-time cohorts
 - Tracked 2005Q1 through 2012Q1 (~1-2 years prior, ~4-5 years follow-up)
 - 155k students
- Virginia: 2006-07, 2007-08, and 2008-09 first-time cohorts
 - Tracked 2005Q1 through 2012Q4 (~1-3 years prior, ~4-6 years follow-up)
 - 28k students

What do students get certificates in?

Long-term



Short-term

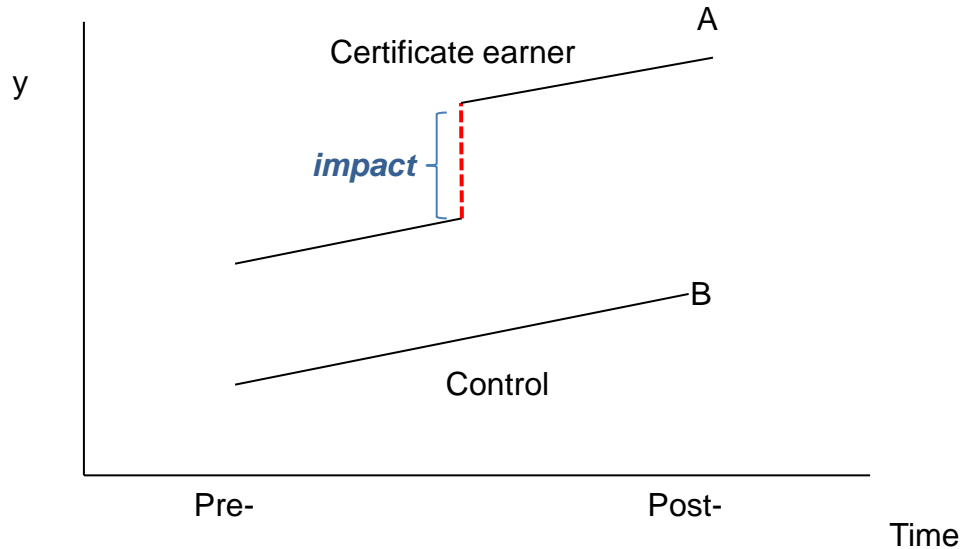


What are the most common programs?

	North Carolina			Virginia		
Rank	Program Name	N	%	Program Name	N	%
Long-term certificates						
1	Practical Nursing	430	12%	General Education	3206	61%
2	Diploma In Arts	314	9%	Practical Nursing	352	7%
3	Dental Assisting	295	8%	Medical Assisting	106	2%
4	Cosmetology	256	7%	Medical Office Administration	92	2%
5	Air Condit., Heat., & Refrig. Tech	232	6%	Law Enforcement	80	2%
Short-term Certificates						
1	Basic Law Enforcement Training	508	7%	Management	149	5%
2	Cosmetology	447	7%	Nursing	119	4%
3	Early Childhood Associate	351	5%	Early Childhood Development	98	3%
4	Air Condit., Heat., & Refrig. Tech	346	5%	Practical Nursing	97	3%
5	Medical Office Administration	308	5%	Truck Driving	75	2%

Methodological Approach

- Method: Individual Fixed Effects
- What does it mean?

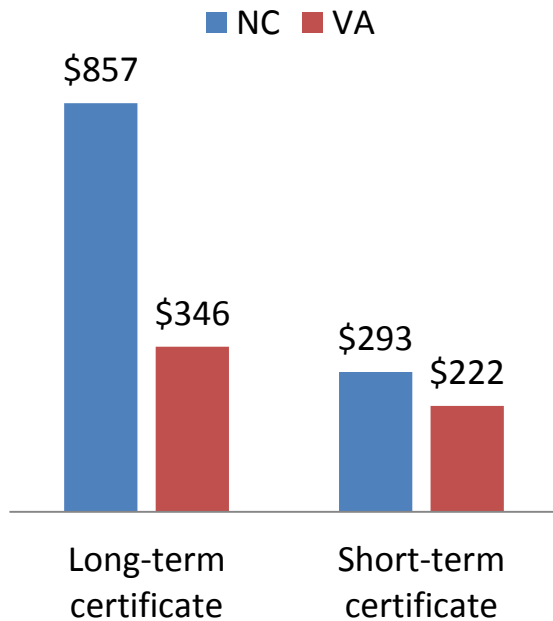


Outcome Measures

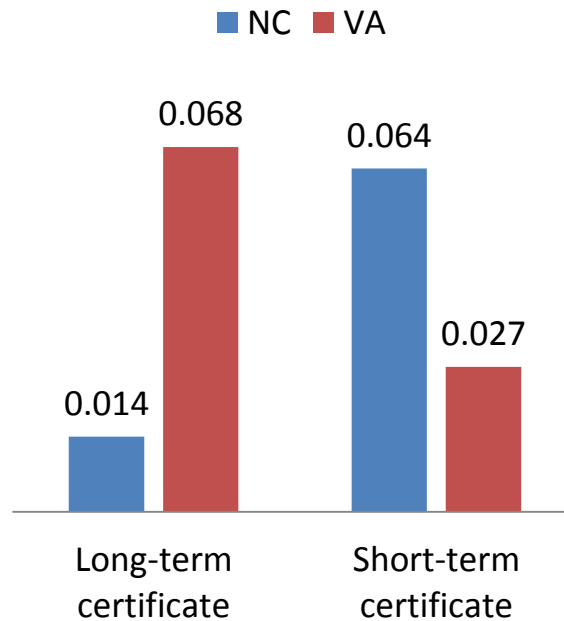
- Quarterly earnings, unconditional on employment
 - Includes \$0 earnings when unemployed
 - Adjusted to 2010\$
- Probability of employment
- Quarterly earnings, conditional on employment
 - Includes only quarters when employed

Overall Returns to Certificates

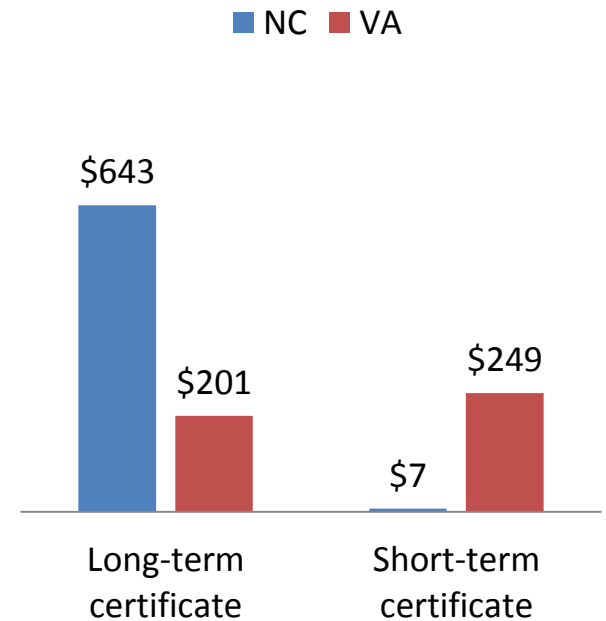
Quarterly Earnings



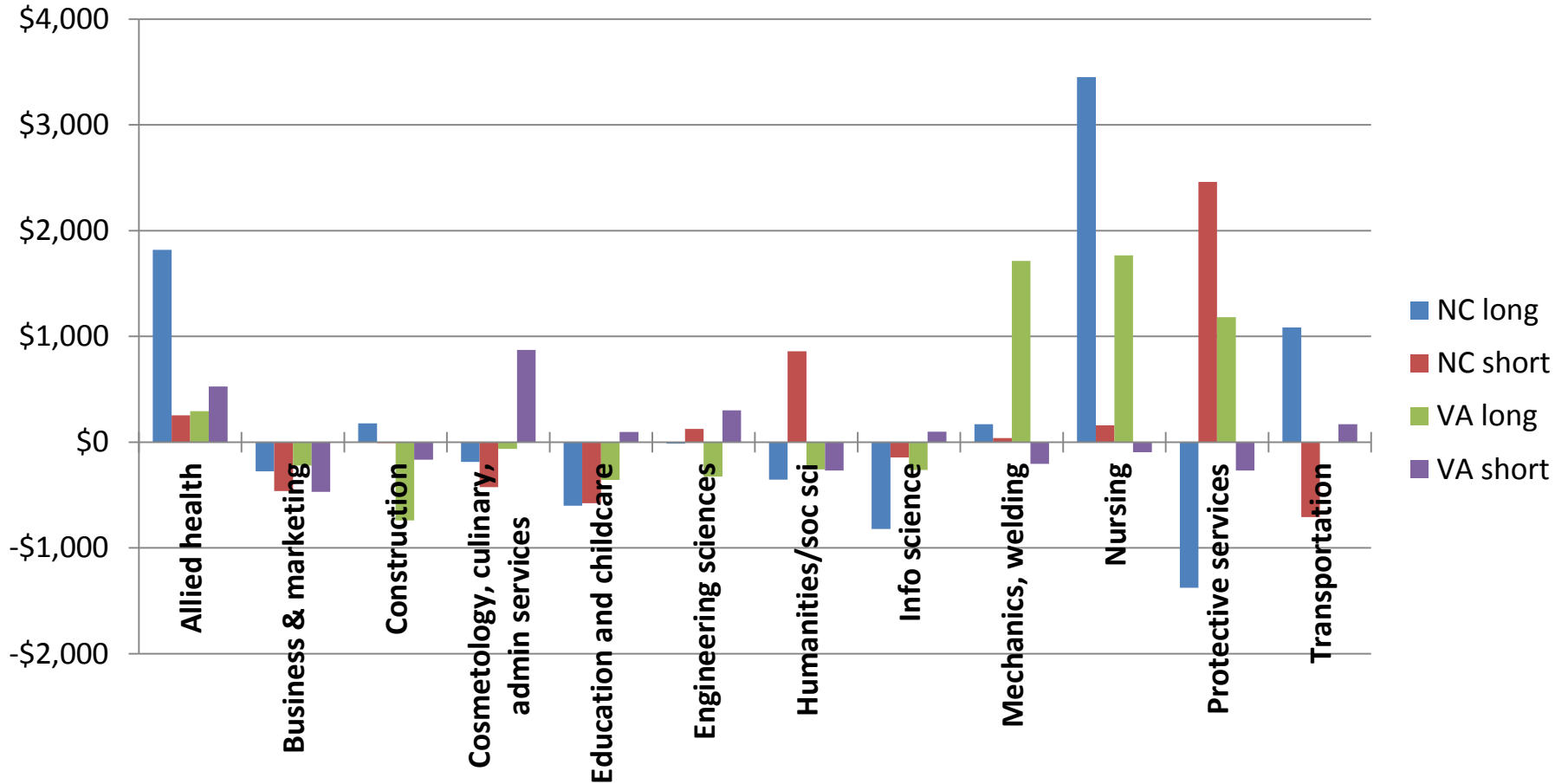
Probability of Employment



Nonzero Quarterly Earnings

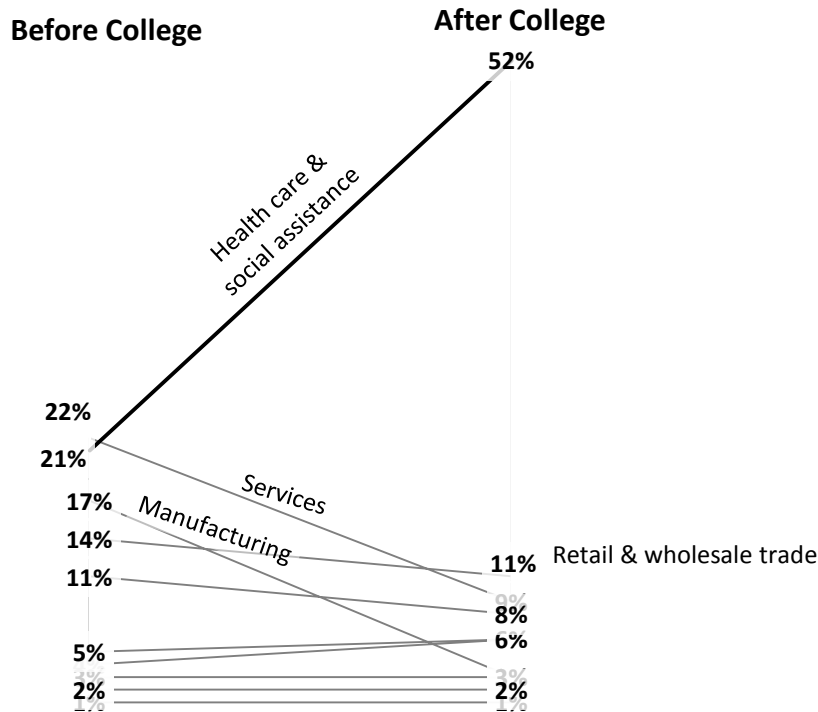


Heterogeneity by Field of Study

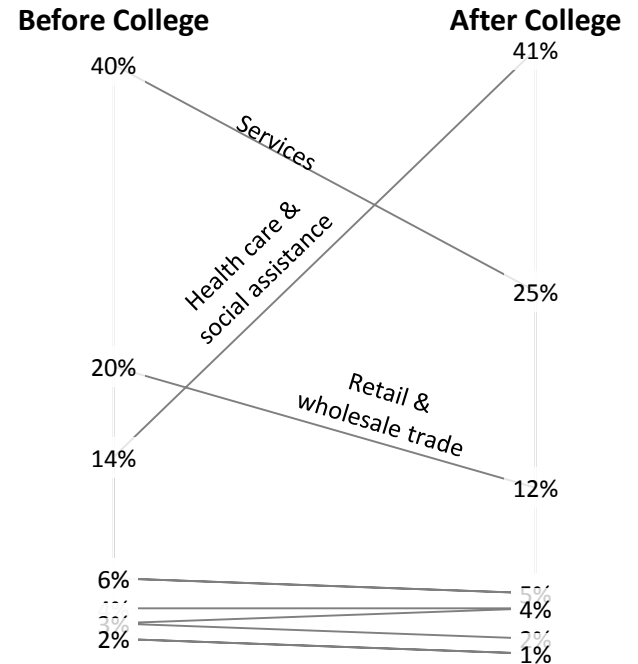


Industry Breakdown: Nursing & Allied Health Certificates

North Carolina



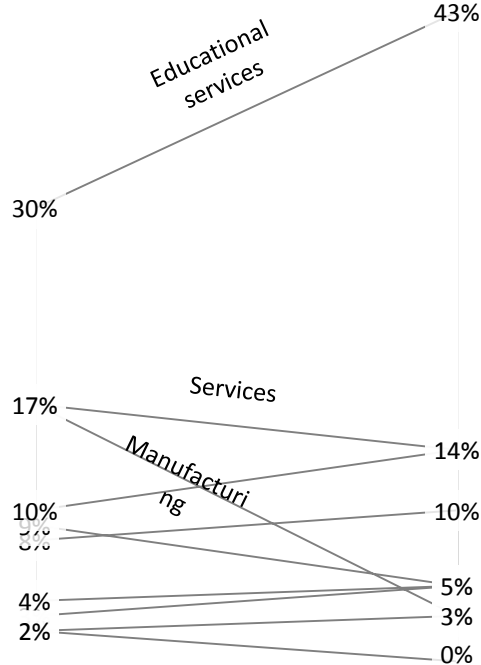
Virginia



Industry Breakdown: Education & Childcare Certificates

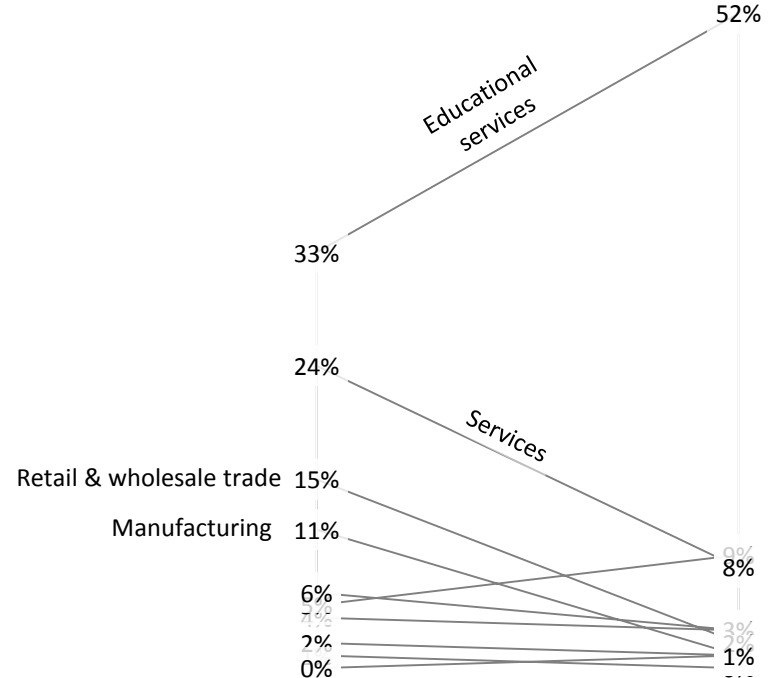
North Carolina

Before College After College



Virginia

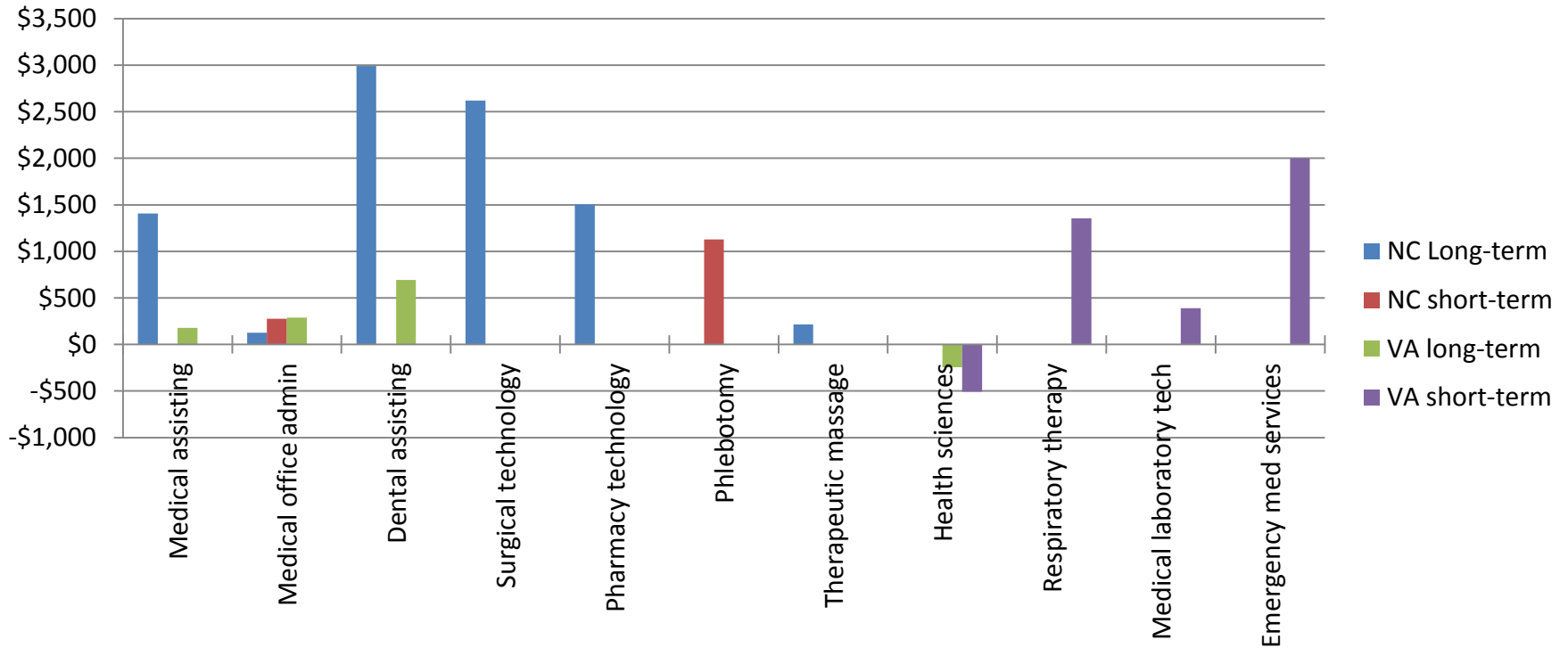
Before College After College



Probability of Employment by Field

	North Carolina		Virginia	
	Long-term	Short-term	Long-term	Short-term
Allied Health	0.201**	0.144**	0.077***	0.071***
Business and marketing	0.103**	0.026	0.007	-0.004
Construction	0.127**	0.055**	-0.064**	0.107***
Cosmetology, culinary, and admin services	0.019	-0.031	0.095***	0.063**
Education and Childcare	0.028	0.041	0.06**	0.048**
Engineering sciences	0.023	0.049**	-0.012	-0.009
Humanities and Social Sciences	-0.011	0.144	0.000	0.079**
Information science, communication & design	-0.054	0.063**	0.014	0.005
Mechanics, repair and welding	0.094**	0.049**	0.144***	0.009
Missing/Other	0.135	0.123**	-0.307*	0.05***
Nursing	0.232**	0.150**	0.178***	-0.039**
Protective Services	-0.035	0.208**	0.169***	-0.068**
Transportation	0.012	-0.061*		0.018

Returns by Program (allied health)



Returns by Program (protective services)

- “Basic law enforcement training” (BLET) short term certificates lead to \$2,647 returns in NC
- In VA, long-term law enforcement (but not short-term) certificates yield positive returns

	North Carolina			Virginia		
Field	Program	Long-term	Short-term	Program	Long-term	Short-term
Protective Services	Basic law enforcement training		2,647**	Law enforcement	1,199***	-647**

Conclusions & Policy Implications

Key Findings	Policy Implications
Significant positive returns to certificates	Increase the visibility of certificates, especially for adult learners
Substantial variations not only in field of study but also in specific programs even within a field	Provide detailed program-level information to students and college administrators
Suggestive evidence that returns to certificates are closely related to their labor market alignment	Encourage certificate programs to build direct links to local employers and career pathway opportunities
Certificates may confer benefits other than high wages	Include multiple measures to evaluate the benefits of a certificate program
Noticeable differences in program offerings and economic returns between states	Conduct local-level analysis

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EXTRA SLIDES

What do students get certificates in?

	North Carolina		Virginia		National	
	Long-term	Short-term	Long-term	Short-term	Long-term	Short-term
Allied Health	25%	10%	10%	26%	18%	17%
Business and marketing	4%	9%	1%	8%	6%	10%
Construction	7%	10%	2%	2%	5%	4%
Cosmetology, culinary, and admin services	8%	11%	3%	3%	11%	7%
Education and Childcare	1%	7%	2%	5%	3%	5%
Engineering sciences	3%	9%	2%	8%	5%	6%
Humanities and Social Sciences	11%	1%	62%	3%	6%	1%
Information science, communication and design	2%	6%	1%	4%	4%	5%
Mechanics, repair and welding	20%	17%	8%	11%	15%	11%
Missing/Other	7%	5%	0%	18%	2%	1%
Nursing	12%	2%	7%	8%	22%	14%
Protective Services	0%	9%	3%	3%	4%	10%
Transportation	0%	4%	0%	3%	1%	8%
N	3,622	6,799	5,276	3,180	141,250	218,171

Industry Breakdown: Nursing & Allied Health Certificates

	North Carolina		Virginia	
	Before College	After College	Before College	After College
Admin & support & waste	4%	6%	4%	4%
Construction	1%	1%	2%	1%
Educational services	3%	3%	6%	5%
Health care & social assistance	21%	52%	14%	41%
Information & finance	5%	6%	6%	5%
Manufacturing	17%	3%	3%	2%
Public administration	2%	2%	3%	4%
Retail & wholesale trade	14%	11%	20%	12%
Services	22%	9%	40%	25%
Others	11%	8%	2%	1%
N	1,747	1,580	1,217	1,268

Industry Breakdown: Education & Childcare Certificates

	North Carolina		Virginia	
	Before College	After College	Before College	After College
Admin & support & waste	3%	5%	4%	3%
Construction	2%	0%	1%	0%
Educational services	30%	43%	33%	52%
Health care & social assistance	8%	10%	5%	9%
Information & finance	4%	5%	6%	3%
Manufacturing	17%	3%	11%	1%
Public administration	2%	3%	2%	1%
Retail & wholesale trade	9%	5%	15%	2%
Services	17%	14%	24%	8%
Others	10%	14%	0%	1%
N	364	242	122	118

Returns by Program (allied health)

	North Carolina			Virginia		
Field	Program	Long-term	Short-term	Program	Long-term	Short-term
Allied Health	Medical assisting	1,407**		Medical assisting	179*	
	Medical office administration	125	275	Medical office administration	288**	
	Dental assisting	2,992**		Dental assisting	693***	
	Surgical technology	2,620**		Health sciences	-243*	-507**
	Pharmacy technology	1,506**		Respiratory therapy		1,355***
	Phlebotomy		1,128**	Medical laboratory technology		390**
	Therapeutic massage	216		Emergency Medical Services		1,997

Heterogeneity by Field of Study

	North Carolina		Virginia	
	Long-term	Short-term	Long-term	Short-term
Allied Health	1,818**	253	294***	526**
Business and marketing	-276	-463**	-221	-469**
Construction	179	-8.0	-740***	-166**
Cosmetology, culinary, and admin services	-186	-424**	-64	872***
Education and Childcare	-600	-577**	-358	97
Engineering sciences	-13	126	-325	302***
Humanities and Social Sciences	-355	859	-256***	-268
Information science, communication & design	-820**	-144	-262	100
Mechanics, repair and welding	170	40	1714***	-204**
Missing/Other	461	57	-2153**	184**
Nursing	3,451**	159	1767***	-96
Protective Services	-1,376	2,460**	1182***	-268
Transportation	1,084	-707*		171