



# Labor Market Returns to 2-Year College Entry: Evidence from Virginia

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# Outline

- Labor Market Returns
  - By credential and credits
  - By subject area
  - Over time
- Cost-Benefit Analysis – Transfer Students
- Summary

# Motivation

- By credential and credits
  - Substantial body of evidence for bachelor and associate awards, but less for evidence on short ( $< 1$  year) and long ( $\geq 1$  year) certificates.

# Motivation

- By subject area
  - Increasing evidence that subject matter impacts labor market returns
  - Provides additional information on value of credential specific to a field of study

# Motivation

- Returns over time
  - Improved understanding of impact of credential in the future
  - Provides important information students can use when making investment decisions

# Method: Mincerian Analysis

- Traditional approach to estimating labor market returns to education
- Similar to analyses in other states (NC, OH); provides comparable estimates

# Merged Dataset

- **VCCS:** demographic transcripts on 24,000 credit-seeking FTIC who initially enrolled in one of 23 VA community colleges in 2004
- **NSC:** durations enrolled, award obtained at all subsequent colleges (2004-2012)
- **Dept. Commerce:** quarterly earnings from (Unemployment Insurance) UI records (2005-2013)

# Highest Award

## (2004 VCCS Cohort)

	Female	Male
No Degree	68%	71%
Short Certificate	1%	1%
Long Certificate	2%	1%
Associate degree	13%	9%
Bachelor's degree +	16%	18%

Female n=13,885; Male n= 10,420



# Returns to Highest Award

(2004 VCCS Cohort; quarterly wage earnings in 2013)

	Female	Male
Short Certificate	- \$859**	- \$985*
Long Certificate	\$69	- \$733
Associate degree	\$648***	\$126
≥ Bachelor's degree	\$1,523***	\$1,373***

\*\*\*p<0.01, \*\*p<0.05, \*p<0.1

# Returns to Credits

(2004 VCCS Cohort; quarterly wage earnings in 2013)

	Female	Male
Any Credit Type	\$15***	\$19***

\*\*\*p<0.01, \*\*p<0.05, \*p<0.1

- Model includes awards and credit accumulation
- Interpreted as potential added labor market value -- even in presence of a credential

# Returns to Credits – restricted sample

(2004 VCCS Cohort; quarterly wage earnings in 2013)

	Female	Male
Any Credit Type	\$19***	\$27***

\*\*\*p<0.01, \*\*p<0.05, \*p<0.1

- Model restricted to students who never received any award
- Estimates increased from previous model
- Suggests labor market value even in absence of a credential

# Returns by Subject Area

- Collapsed into 14 subject areas by CIP codes
- Examples:
  - Humanities & social sciences
  - Math & Science
  - Allied Health
- Does not include credits/awards post-VCCS

# Returns by Subject Area:

## Frequency of Findings by Credential

### Female

### Male

	Short & Long Certificate	Associate Degree	Short & Long Certificate	Associate Degree
Positive Returns	0	3	1	5
Negative Returns	5	2	8	2
No Findings	23	9	19	7

# Returns by Subject Area:

## Example Subject Areas

### Female

### Male

	Short & Long Certificate	Associate Degree	Short & Long Certificate	Associate Degree
Positive Returns	---	Allied Health; Nursing; Transportation	Mechanics, Repair, & Welding	Engineering Sciences; Nursing; Construction; Mechanics, Repair, & Welding
Negative Returns*	Allied Health; Business/Marketing; Education/Childcare	Humanities/Social Sciences	Construction; Humanities/Social Sciences; Education/Childcare	Transportation; Math/Science

\*Note: Students categorized by highest degree earned. Thus, BA recipients excluded in subject area analysis. Consequently, some shorter-term degrees found to have negative returns may have positive returns if those awards led to four-year degree attainment. For example, an AA in humanities often serves as a transfer-oriented award and thus may lead to positive returns if the student ultimately transferred and earned a 4-year award.

# Returns by Subject Area

- Heterogeneous results
- Majority of short and long certificates negative and not statistically significant
- Subject area and credential type matter
- Higher estimated returns for male associate earners

# Returns over Time

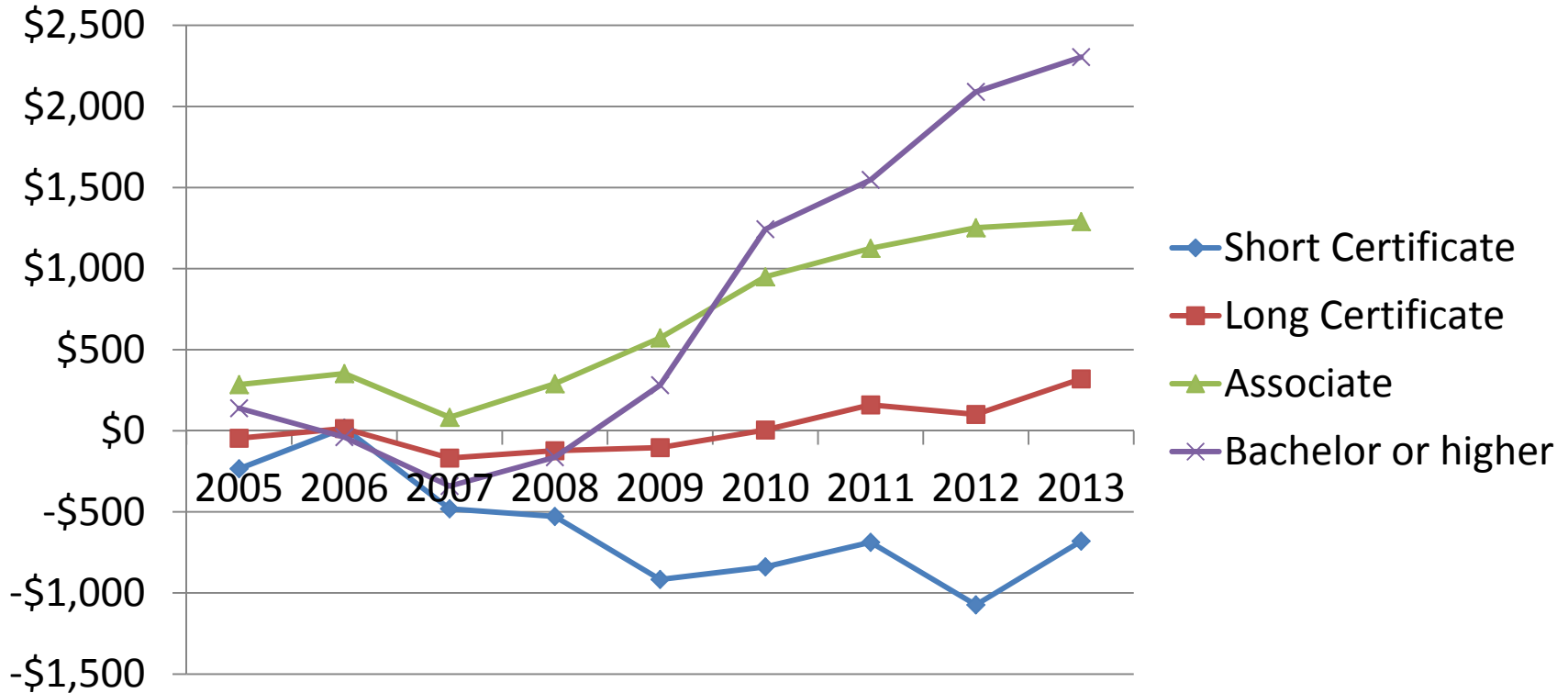
(2004 VCCS Cohort; quarterly wage earnings 2005-2013)

- Annual point estimates for short & long certificates = mostly statistically **insignificant**
- Associate and bachelor point estimates mostly statistically significant



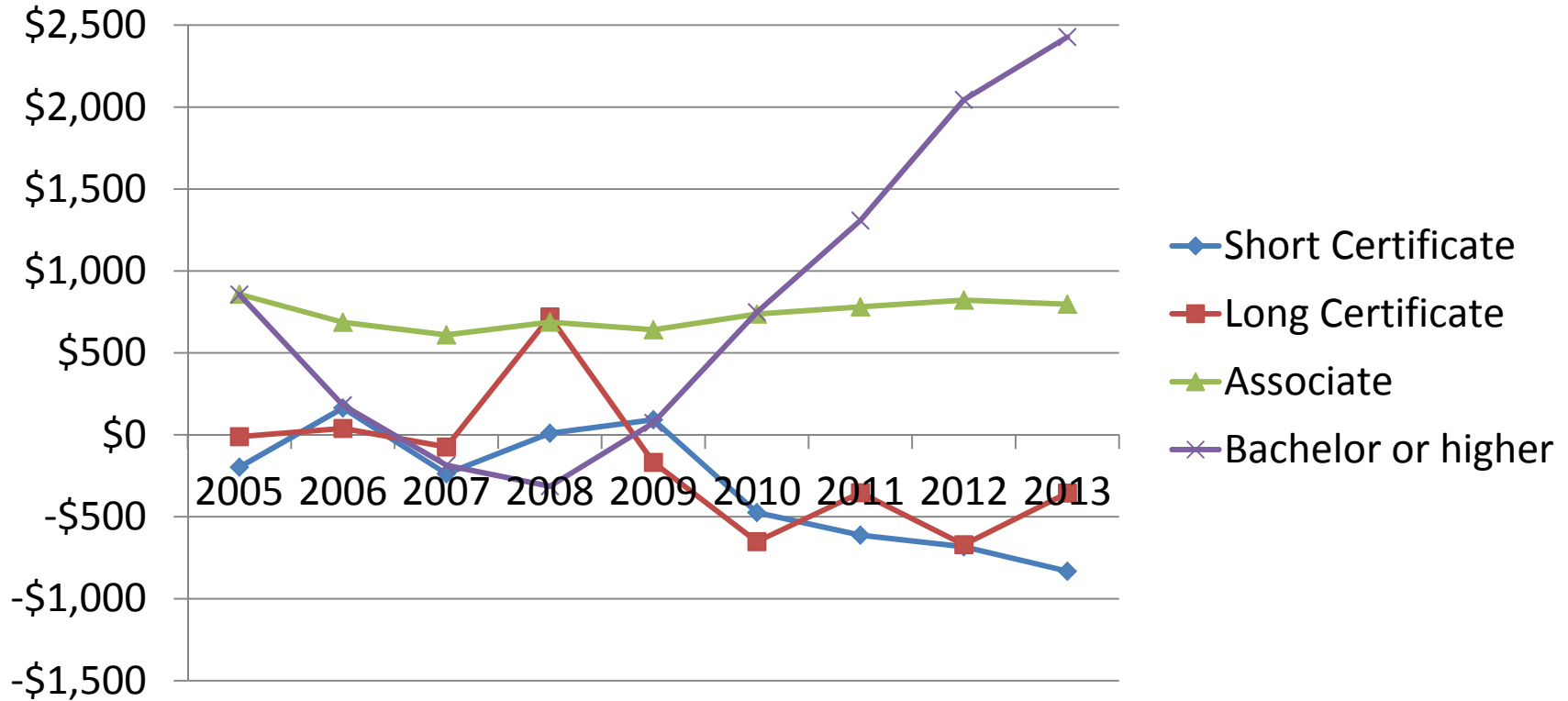
# Returns over Time - Female

(2004 VCCS Cohort; quarterly wage earnings 2005-2013)



# Returns over Time - Male

(2004 VCCS Cohort; quarterly wage earnings 2005-2013)



# Returns over Time

- Consistent with prior estimates
- Bachelor's = initial drop followed by constant rise
- Associate = slow rise (steeper for females)
- Short and long certificate = slow decline

# Overall Summary

- Credits matter – even in absence of an award
- Field of study matters – Heterogeneous impacts across fields and award type
- Returns over time consistent with prior estimates

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