

# Labor Market Returns to Community College in Michigan

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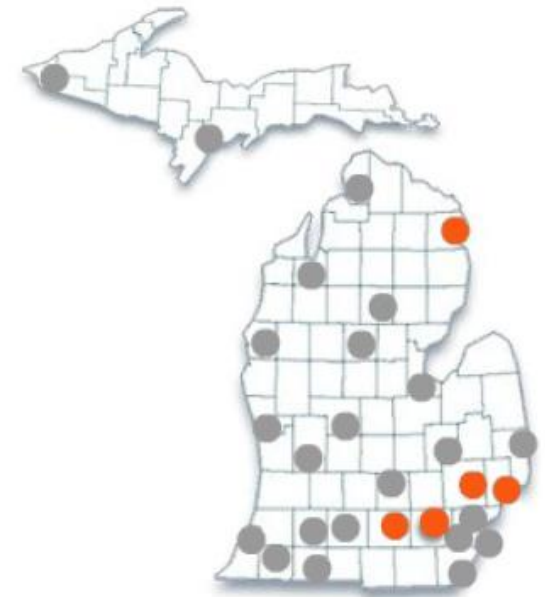
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# MI Community College Sample

	Sample: 5 MI Comm Colleges	All other MI Comm Colleges	All US
<b>Demographics</b>			
Female	57%	61%	60%
Non-white	22%	26%	36%
Full time	38%	39%	46%
Age < 21 at enrollment	8%	11%	14%
<b>Tuition</b>			
Tuition (in state)	\$2,995	\$3,102	\$2,939
<b>Students</b>			
Number of schools	5	25	1057
Average enrollment	13,150	6,271	5,537
Total enrollment	65,750	156,769	5,559,469

Statistics from IPEDS, 2006. Sample is public and not-for-profit 2-year degree granting institutions



# Credentials Examined

- AA
- Certificates
  - Short: < 15 credit hours
  - Long: 15+ credit hours

# Our analysis sample

## **Our sample is students who:**

- Attempted at least 1 credit in our five colleges between Fall 2003 and Fall 2004
- Were age 17-60 at initial enrollment
- Are first-time college students

## **We can follow students:**

- In UI records from 1998q2 through 2011q2.
- In NSC 1995 through 2012.

## **Our college data include:**

- Demographics, financial aid, transcripts, awards and remedial test scores through Fall 2011

# What Does Completion Look Like?

*Within 7 Years of College Entry*

15%	AA
5%	certificate (1% short, 4% long)
33%	transfer to a 4-year college
68%	no credential

**Table 1: Student Characteristics by Type of Credential Earned**

	No Award	Short Cert	Long Cert	Assoc Degree	Transfer to 4-yr	All Students
<b>Proportion of all students</b>	0.68	0.01	0.04	0.15	0.33	1.00
<b>Total count of students</b>	13,990	293	722	3,057	6,884	20,581

Students can appear in more than one column → columns sum to >100%

# Characteristics of Non-Completers

*Older, enrolled in fewer credits at entry, more nonwhite*

	No Award	All Students
<b>Sex</b>		
Male	0.49	0.46
Female	0.51	0.54
<b>Age at entry</b>		
< 20 years	0.43	0.48
20 to 26 years	0.26	0.24
27 to 45 years	0.25	0.22
46 to 60 years	0.06	0.05
<b>Race</b>		
White	0.73	0.75
African American	0.14	0.12
Latino/a	0.02	0.01
Asian or Pacific Islander	0.03	0.03
Other	0.06	0.06
Race missing	0.02	0.02
<b>Enrollment intensity (1<sup>st</sup> quarter)</b>		
< 5.0 credit hours	0.36	0.34
5.0 to 11.9 credit hours	0.39	0.36
>11.9 credits hours	0.25	0.30
<b>Proportion of all students</b>	<b>0.68</b>	<b>1.00</b>
<b>Total count of students</b>	<b>13,990</b>	<b>20,581</b>

# Summary of Findings

- AA: recipients earn 12% (men) to 32% (women) more than those with no credential
- Certificates:
  - Women with long certificates earn 13% more than those with no credential.
  - Estimates close to zero for men and for all short certificates

# OLS vs. Fixed Effects

	Females		Males	
	OLS	Individual fixed effects	OLS	Individual fixed effects
Short-term certificate	-0.190 (0.146)	0.00399 (0.0570)	0.131 (0.155)	0.0836 (0.0746)
Certificate	-0.0179 (0.0922)	0.132*** (0.0475)	0.335*** (0.0766)	0.0357 (0.0366)
Associate degree	0.319*** (0.0439)	0.327*** (0.0246)	0.272*** (0.0514)	0.118*** (0.0248)



# Why the variation in returns by sex?

- Women and men go into different fields, which may explain the differential returns
- Look at returns to different fields, by sex

# Field Definitions

**Health (non-nursing)**

**Nursing**

**Business (non-finance)**

**Accounting & finance**

**Computer & information sciences**

**Engineering & science technologies**

Engineering Technologies

Engineering

Architecture And Related Services

Science Technologies/Technicians

**Protective services**

**Family and consumer sciences**

**Personal & culinary services**

**Legal professions & studies**

**Education**

**Other technical**

Mechanic And Repair Technologies

Construction Trades

Precision Production

Transportation And Materials Moving

**Other professional**

Visual And Performing Arts (Design)

Public Administration And Social Service

Communication, Journalism, And Related

Agriculture, Agriculture Operations, An

Communications Technologies/Technicians

Parks, Recreation, Leisure, And Fitness

Library Science

Natural Resources And Conservation

# Field Definitions

## **Liberal arts**

Liberal Arts And Sciences, General Stud

Visual And Performing Arts

Physical Sciences

Multi/Interdisciplinary Studies

Psychology

Mathematics And Statistics

English Language And Literature/Letters

Biological And Biomedical Sciences

Social Sciences

Foreign Languages, Literatures, And Lin

History

Area, Ethnic, Cultural, Gender, And Gro

Philosophy And Religious Studies

# Variation by Field: Women

		Short-term certificates	Certificates	Associate degrees
1	Liberal Arts		-0.0772 (0.0674)	-0.0319 (0.0317)
2	Health (non-nursing)	0.0213 (0.0580)	0.0306 (0.0885)	0.618*** (0.0599)
3	Nursing		0.756*** (0.0956)	1.004*** (0.0484)
4	Business (non-finance)	-0.252* (0.138)	0.192** (0.0892)	-0.0163 (0.0428)
5	Accounting & finance	0.503*** (0.161)	-0.166 (0.151)	0.0562 (0.0942)
6	Computer/information sciences	-0.231 (0.242)	0.456** (0.195)	0.00304 (0.143)
7	Engineering & science technologies	0.106 (0.188)	-0.461** (0.182)	0.0385 (0.121)
8	Protective services	0.519 (0.438)	0.283 (0.453)	-0.0424 (0.0971)
9	Family & consumer sciences	0.262 (0.472)	0.0680 (0.246)	-0.0473 (0.0749)
10	Personal & culinary services	0.445* (0.270)	-0.410** (0.196)	0.337* (0.195)
11	Legal professions & studies		0.225** (0.103)	-0.00162 (0.155)
12	Education			-0.194* (0.117)
13	Other technical	-0.744*** (0.103)	0.458** (0.191)	0.416** (0.208)
14	Other professional	-0.901*** (0.0308)	0.0598 (0.171)	-0.0235 (0.102)

# Variation by Field: Women

*Bold indicates same for men*

Large & Positive AA	Large & Negative AA
<b>Health</b>	<b>Education</b>
<b>Nursing</b>	
Other Technical	
Large & Positive Long Certificate	Large & Negative Long Certificate
<b>Nursing</b>	Engineering & Science Technology
Business	Culinary
Computer/Information Science	
Legal	
Other Technical	

# Variation by Field: Men

		Short-term certificates	Certificates	Associate degrees
1	Liberal Arts		0.0751 (0.127)	-0.00639 (0.0371)
2	Health (non-nursing)	0.0234 (0.106)	0.227*** (0.0387)	0.579*** (0.134)
3	Nursing		0.807*** (0.111)	0.849*** (0.135)
4	Business (non-finance)	0.0943 (0.111)	-0.0431 (0.139)	-0.0864 (0.0565)
5	Accounting & finance	0.523*** (0.0525)	0.241 (0.280)	0.140 (0.168)
6	Computer/information sciences	0.256 (0.183)	0.0467 (0.102)	0.149** (0.0705)
7	Engineering & science technologies	-0.0301 (0.125)	-0.0437 (0.0755)	0.107** (0.0503)
8	Protective services		-0.0723 (0.158)	0.127** (0.0617)
9	Family & consumer sciences		0.293*** (0.0424)	
10	Personal & culinary services	0.279** (0.122)	-0.184 (0.127)	0.176 (0.126)
11	Legal professions & studies			-0.0721 (0.325)
12	Education			-0.367** (0.153)
13	Other technical	0.153 (0.149)	0.0260 (0.0474)	0.230*** (0.0618)
14	Other professional	0.00308 (0.0931)	0.431* (0.229)	0.0462 (0.122)

# Variation by Field: Men

*Bold indicates same for women*

Large & Positive AA	Large & Negative AA
<b>Health</b>	<b>Education</b>
<b>Nursing</b>	
Computer/Information Science	
Engineering & Science Technology	
Protective Services	
Information Science	
Other Technical	
Large & Positive Long Certificate	Large & Negative Long Certificate
Health	
<b>Nursing</b>	
Family & Consumer Science	
Other Professional	

# Credentials by Field

**Table 2. Percent of all degrees earned in each field by degree type.**

	Short Certificate	Long Certificate	Associates
Liberal arts and sciences	0.0%	12.0%	39.7%
Health (excluding nursing)	76.5%	12.3%	8.8%
Health (nursing)	0.0%	7.6%	9.6%
Business (excluding finance)	3.1%	6.0%	11.4%
Accounting/finance	0.3%	3.0%	2.2%
Computer information sciences	2.7%	1.5%	2.5%
Engineering science technologies	9.9%	5.5%	5.6%
Protective services	0.3%	1.4%	5.5%
Family consumer sciences	0.0%	1.9%	2.8%
Personal culinary services	2.7%	2.4%	1.5%
Legal professions studies	0.0%	1.2%	1.4%
Education	0.0%	0.0%	1.4%
Other technical	4.1%	17.3%	3.7%
Other professional	0.7%	1.7%	2.9%
N	293	722	3,057

Notes: Columns do not sum to unity because some fields are unknown (for students who earned degrees in other institutions), and because some students earn multiple awards, often in multiple fields.



# Conclusions: Degrees

- Returns to an AA vary considerably by field and degree
- Nursing and health show the most consistently positive, large returns, across both sexes
  - 19% of AAs are in these fields
- The most popular AA degree, liberal arts, shows zero return
  - 40% of AAs are in these fields
  - Did these AA grads hope to go for a BA, and hence chose an academic degree?

# Conclusions: Certificates

- Estimated returns to long certificates average zero for men and 13% for women
  - Nursing shows the most consistently positive, large returns
  - 8% of long certificates are in nursing
- Estimated returns to short certificates average zero but vary wildly across field