



# From Data to Action: 2025 CCA Data Days

**July 28-29**  
**Denver, CO**

*Agenda & Resources:*  
[CompleteCollege.org/DataDays2025](https://CompleteCollege.org/DataDays2025)

Lead sponsor:



Additional support by:



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# Beyond the Numbers: Turning Analytics into Actionable Educational Outcomes

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**Emily House, PhD**

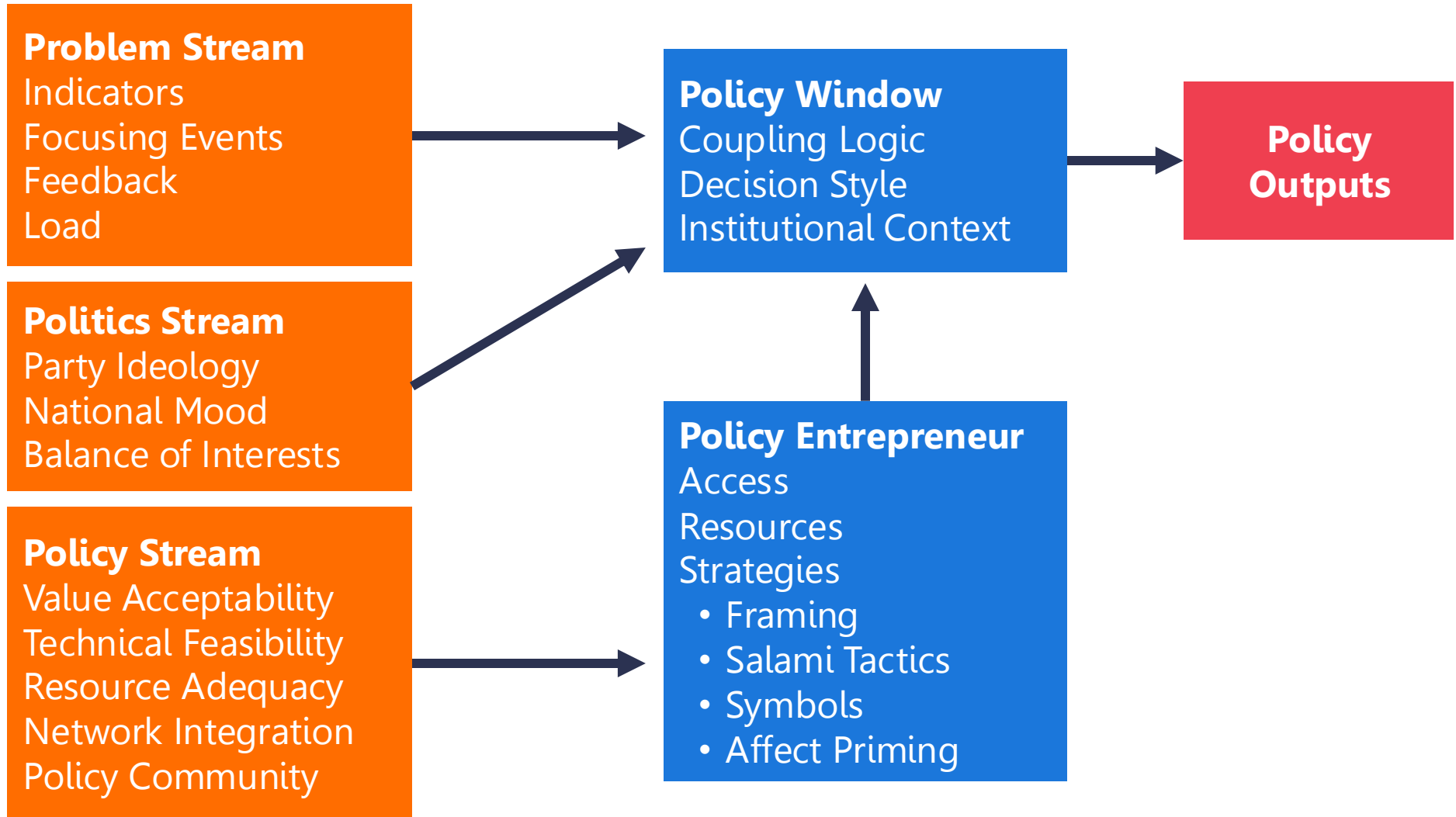
Lecturer, Department of Leadership, Policy, and Organizations, *Vanderbilt University*

Former Executive Director,  
*Tennessee Higher Education Commission*

# ANALYSIS → ACTION

What conditions must be present for this to happen?

# A Multiple Streams Meta-Review



**Figure 1.** Diagram of the Multiple Streams Approach

**Problems**

**Solutions**

**Participants**

**Choice  
opportunities**

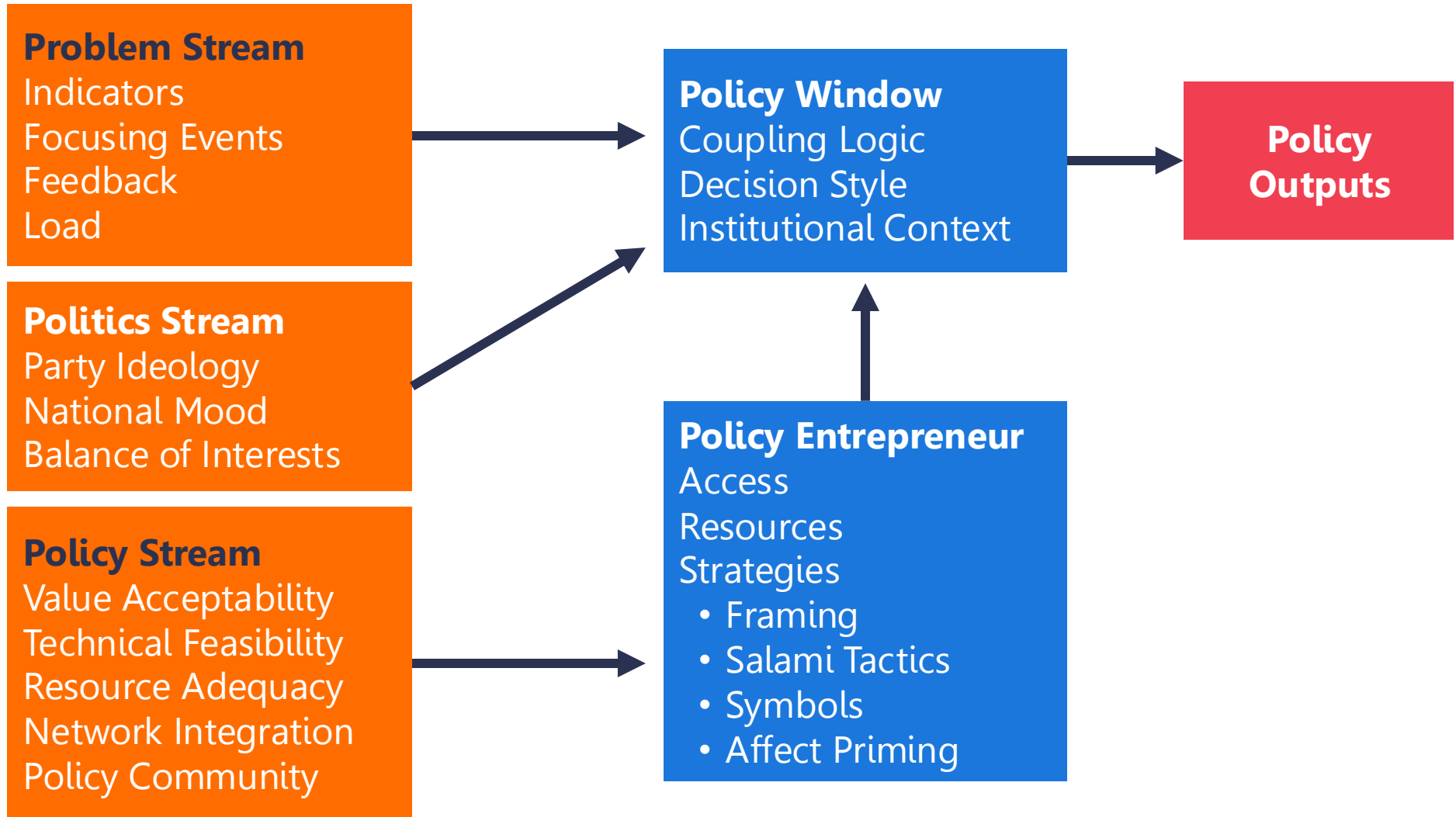
**Decision**



**Data informs  
every stream,  
every step.**

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# A Multiple Streams Meta-Review



**Figure 1.** Diagram of the Multiple Streams Approach



Is the problem a problem?



## Is the problem a problem?

Every high school graduate

Goes to college

Graduates from college

Stays in Tennessee

Works in  
Tennessee

**STILL not enough  
to meet workforce  
demand**

Ok, so,  
now what?

**A lot of “hey you!”**

Early  
college?

In-  
migration?

Employee  
retention?

Recruit  
differently?

What's  
Kentucky  
doing?

Employer  
incentives?

More  
financial  
aid?

**ADULTS**

# Are the proposed solutions feasible?

- Are funds available?
- What will take up look like?
- What is the best way to design the intervention?
  - Limit to Some College, No Degree?
  - Part time? Three-quarters time?
- Who will champion the intervention?
  - And – what information do they need to do so?



TENNESSEE

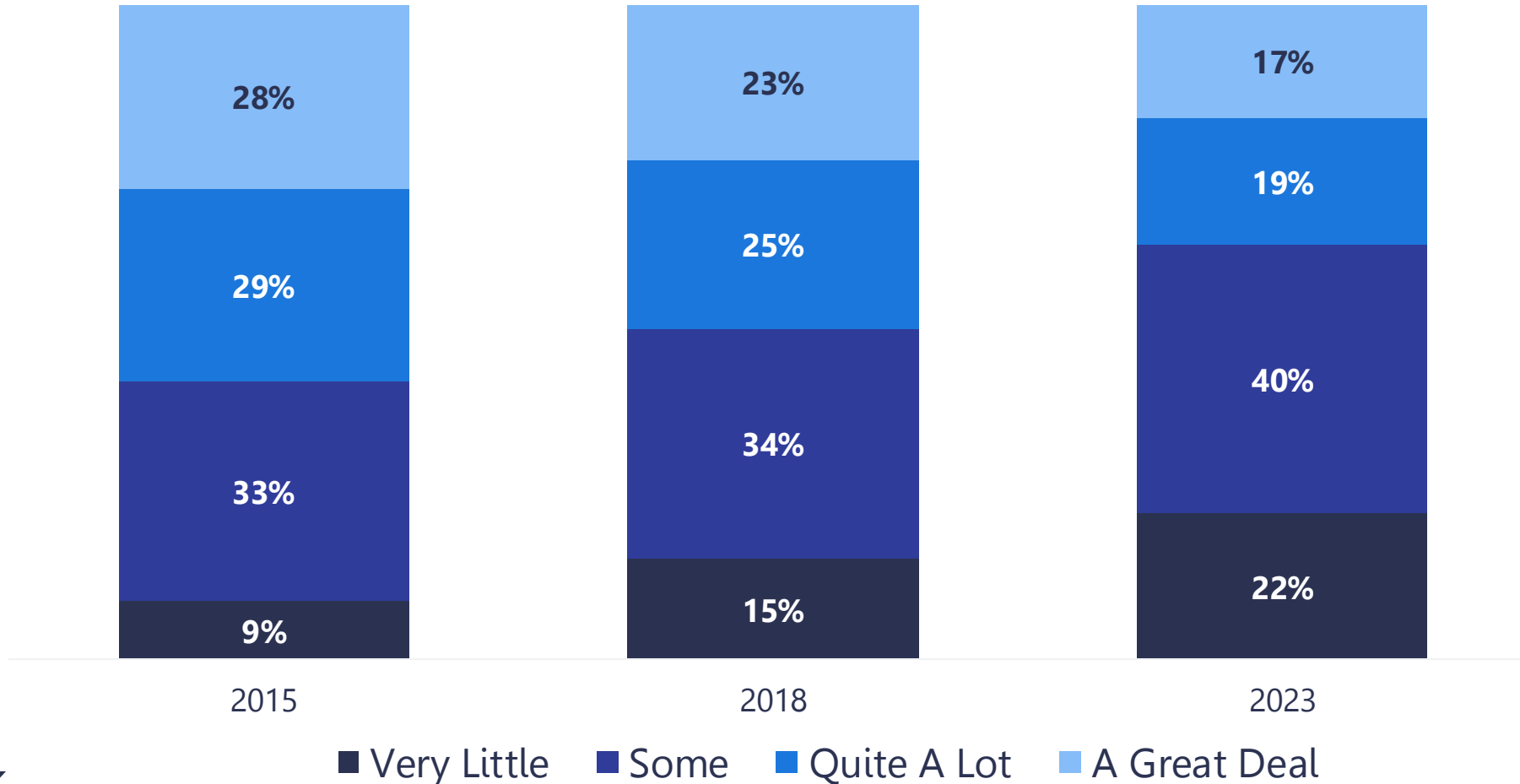
# Reconnect

A photograph of Taylor Swift performing on stage. She is wearing a red sequined dress and a gold chain necklace. She is holding a white acoustic guitar with pink stripes and a blue microphone. Her arms are outstretched, and she is smiling. The background is dark blue.

**Timely higher ed issues: A data-driven Eras Tour**

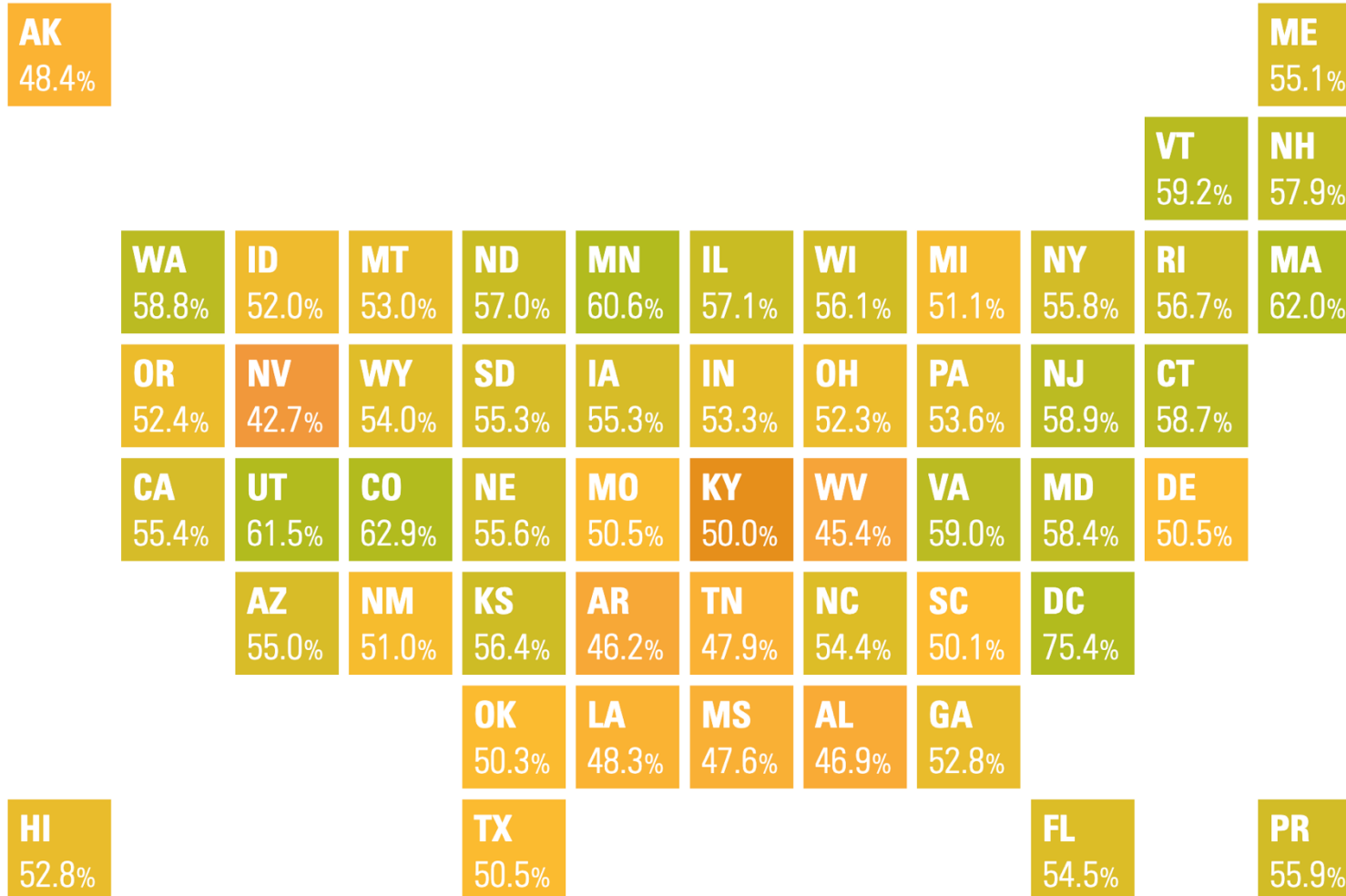
PERCEPTIONS OF HIGHER EDUCATION

**Public confidence in higher education is decreasing.**

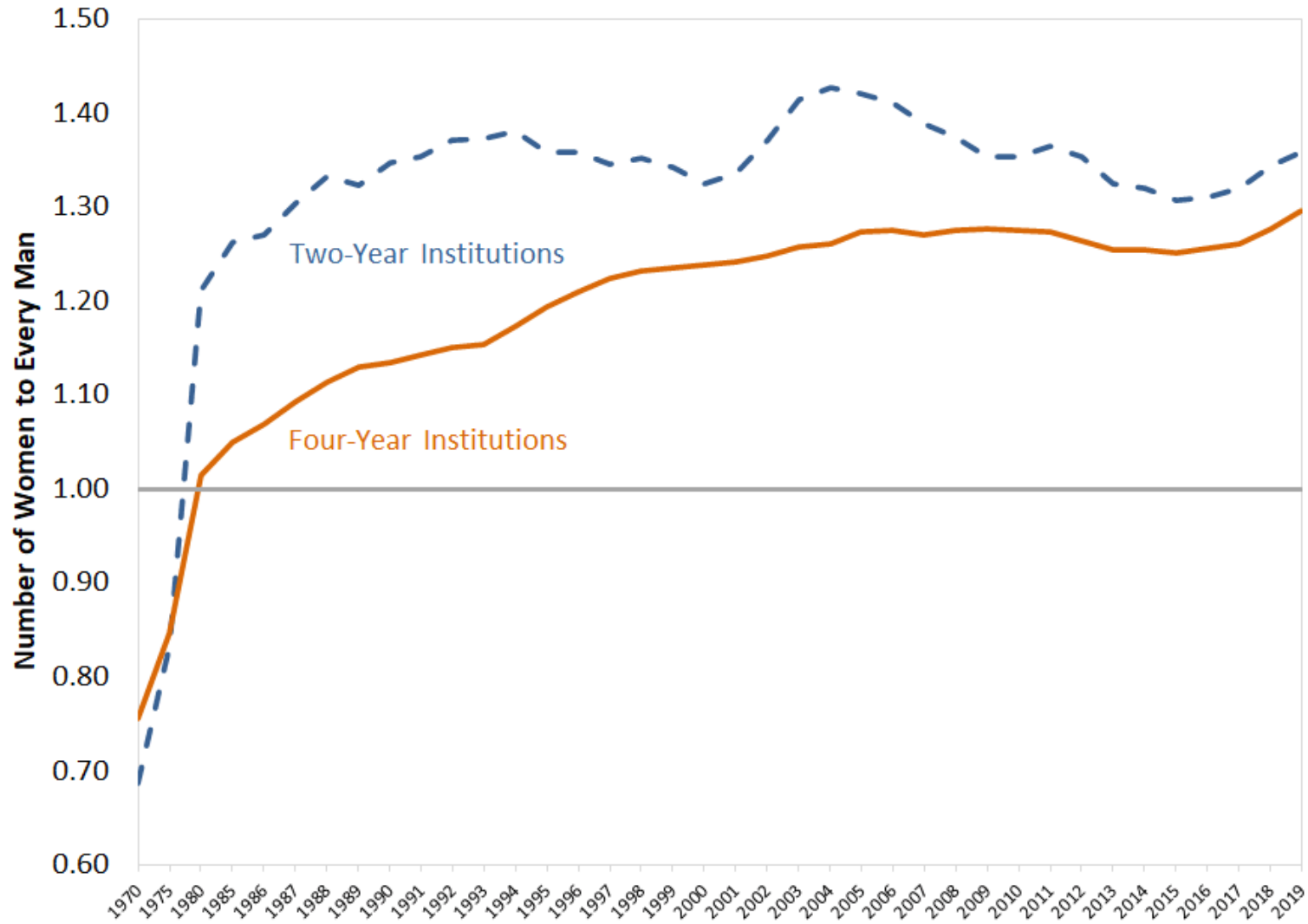




# "End" of the attainment era



# Access (for whom?)



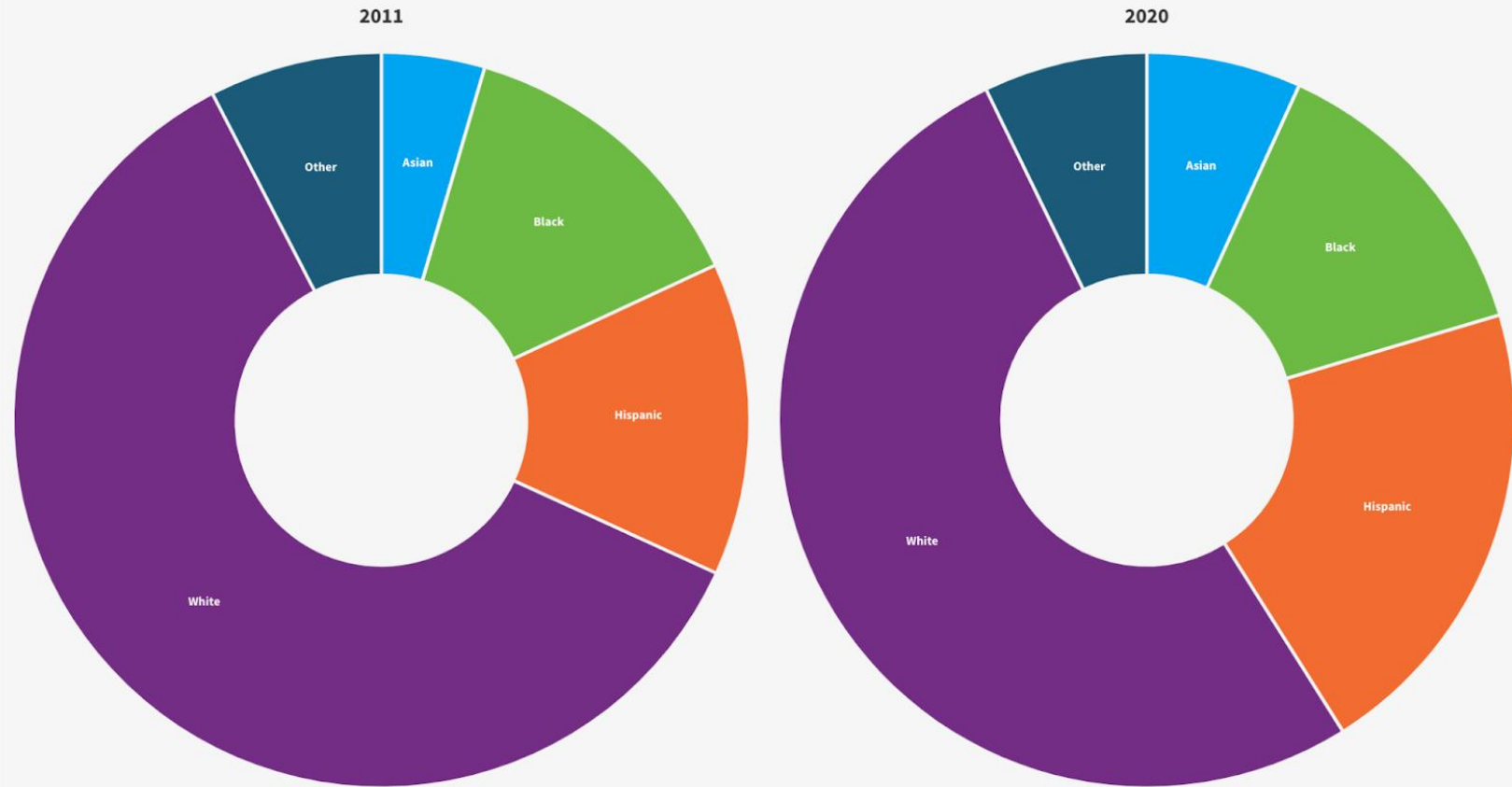
Source: Federal Reserve Bank of St Louis

# Access (for whom?)

## All Enrollment by Race/Ethnicity

Percentage of total college enrollment (all institution types) by race/ethnicity: 2011 and 2020

Asian Black Hispanic White Other

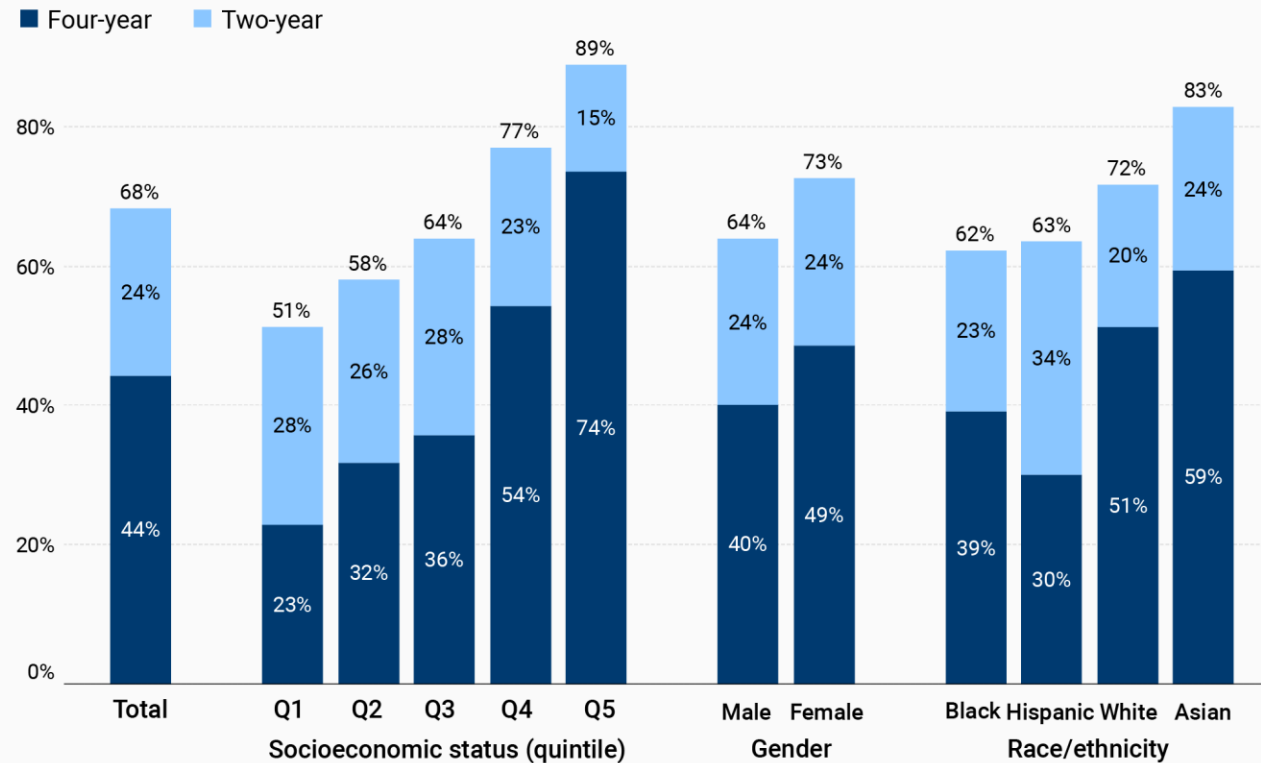


# Access (for whom?)

FIGURE 1

## Postsecondary enrollment rate

Percent of 2009 9th graders enrolled within 18 months of expected HS graduation

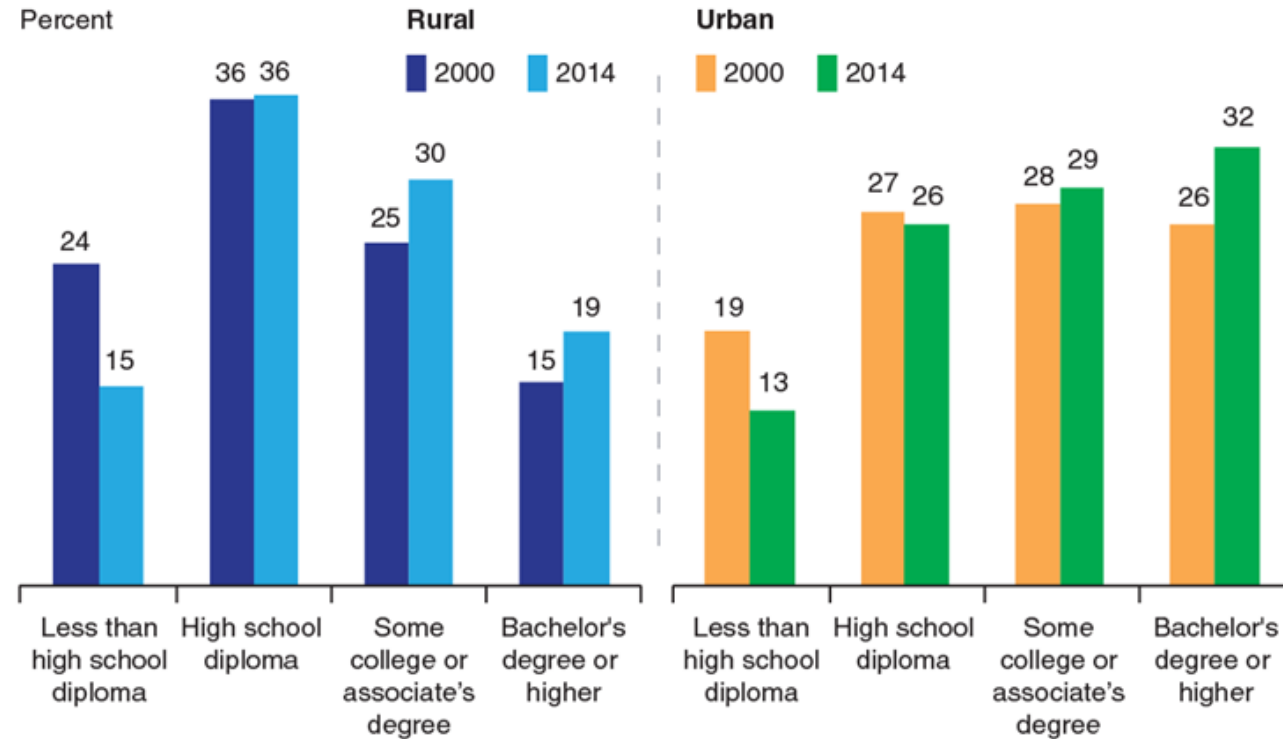


Source: Authors' calculations based on the High School Longitudinal Survey of 2009 (HSL:09). See text and Table A1 for details.

BROOKINGS

# Access (for whom?)

Educational attainment for adults 25 and older in rural and urban areas, 2000 and 2014

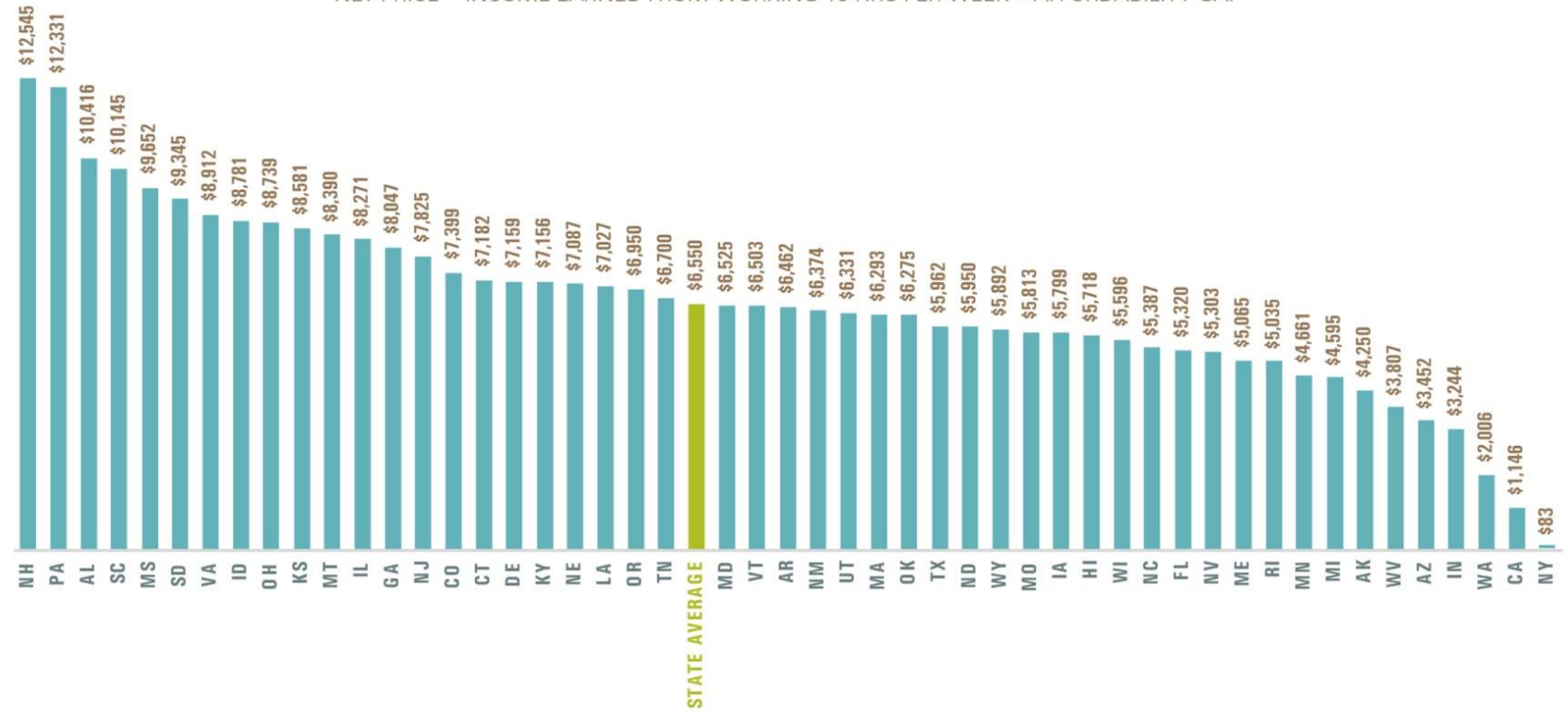


Note: Reported values for rural and urban areas reflect the 2013 Office of Management and Budget metro/nonmetro delineations.  
Source: USDA, Economic Research Service using data from U.S. Census Bureau 2000 Census and 2014 American Community Survey.

FIGURE 1:

**AFFORDABILITY GAP FOR LOW-INCOME STUDENTS AT PUBLIC FOUR-YEAR INSTITUTIONS (BY STATE)**

NET PRICE – INCOME EARNED FROM WORKING 10 HRS PER WEEK = AFFORDABILITY GAP

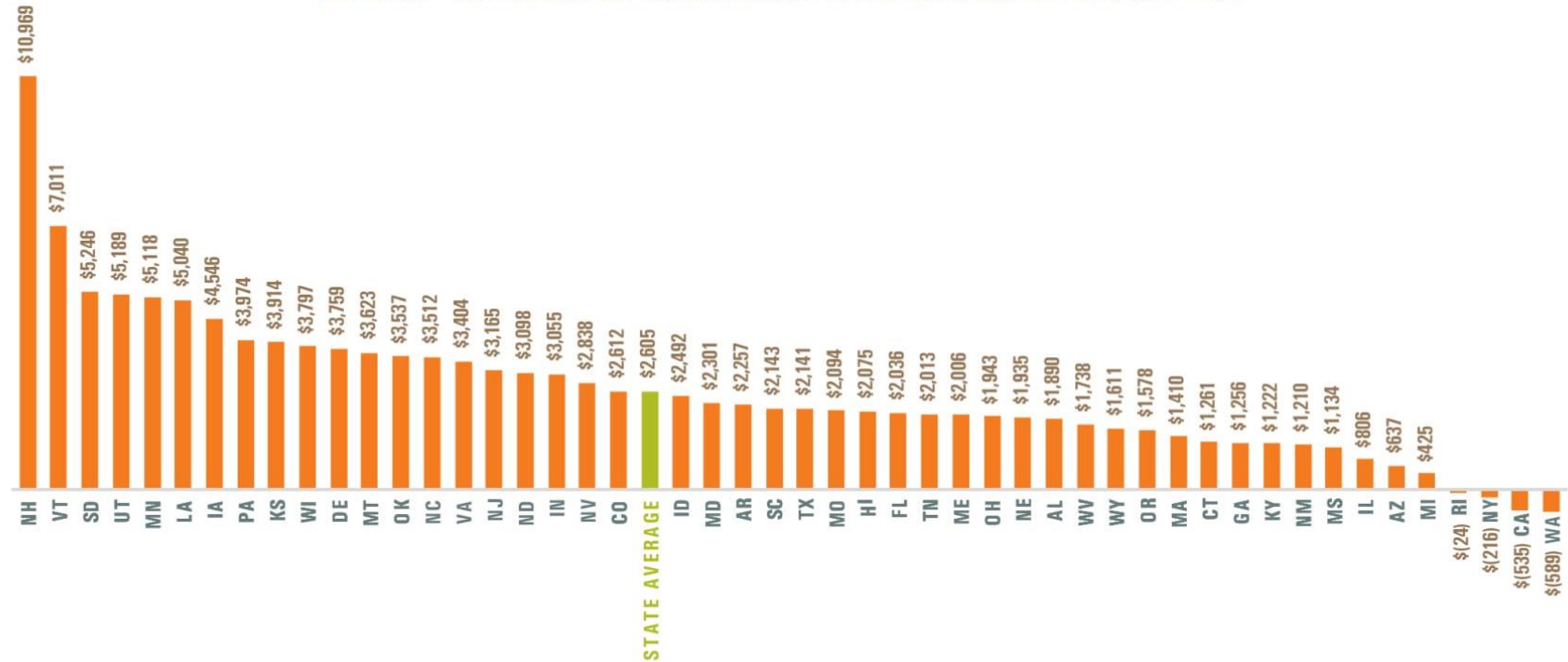


Source: Ed Trust analysis of the Integrated Postsecondary Education Data System (IPEDS), Student Financial Aid Component; National Conference of State Legislatures.  
State average is the unweighted average of all 50 states.

FIGURE 3:

**AFFORDABILITY GAP FOR LOW-INCOME STUDENTS  
AT PUBLIC COMMUNITY AND TECHNICAL COLLEGES (BY STATE)**

NET PRICE – INCOME EARNED FROM WORKING 10 HRS PER WEEK = AFFORDABILITY GAP



Source: Ed Trust analysis of the Integrated Postsecondary Education Data System (IPEDS), Student Financial Aid Component; National Conference of State Legislatures.  
State average is an unweighted average of state data.



# (Financial) Value and Return on Investment

EDUCATION  
FOUNDATION



Profiles for each of the 50 states plus Washington, D.C., provide a breakdown of state progress for return on investment and the five priority areas.



# Tennessee

## State Opportunity Index



The State Opportunity Index measures state progress in five priority areas: Clear Outcomes, Quality Coaching, Affordability, Work-Based Learning, and Employer Alignment. While all states have room for improvement, those designated as Leading are at the forefront and have made the most progress toward creating equitable pathways to opportunity. Advanced states also have made substantial progress, while Developing states are earlier in their improvement efforts. Foundational states are at the beginning of their journey.

The five priority areas below all represent ways for states to strengthen the link between education and opportunity. One measure of the current strength of that link is how consistently college graduates achieve a positive return on investment (ROI), i.e., the percentage of graduates better off financially because they went to college. The positive ROI value for each state represents the estimated percentage of college graduates whose earnings premium over high school graduates is enough to repay their total cost of a degree within 10 years. Positive ROI data are available for 50 states and Washington, D.C.

### Positive ROI

**68%**  
OVERALL

**69%** BACHELOR'S  
**62%** ASSOCIATE

# Colorado Value Threshold Model

**Colorado  
Minimum Value  
Threshold**

=

**Incremental  
Earnings**

-

**Costs specific to  
attending higher  
education**

# Colorado Value Threshold Model

**Colorado  
Minimum Value  
Threshold**

=

**[(Median earnings by  
institution and field) –  
(Median earnings of  
high school graduate)]**

–

**[Tuition & fees –  
Financial aid) +  
(Median earnings of  
high school graduate)]**

# Fundamentals

- No one will take your PhD away if you speak about data accessibly; meet your audience where they are.
- Use data to tailor your message. This is strategic, not sketchy.
- Decisionmakers are not useless, they're busy.
- Work with your Comms teams!
  - Present data clearly! Make deliverables visually appealing!

# Pick your battles

- Don't freak out about causal language, BUT
- Do speak up when something is wrong or overly politicized.





```
3:43, 8 users, load average: 7.37, 6.
184 sleeping, 0 stopped, 0 zombie
0%ni, 39.5%id, 22.3%wa, 0.0%hi, 0.1%
0%us, 141276k free, 41940k buf
34k used, 35140024k free, 8350412k cac
```

RES	SHR	S	%CPU	MEM	TIME+	COMMAND
154m	37m	S	102.5	0.6	1425:20	MATLAB
118m	40m	S	99.8	0.5	20:37.98	MATLAB
117m	40m	S	95.8	0.5	17:27.27	MATLAB
7.3g	2074	D	4.0	31.1	34:31.83	stata-s

SSH-Q - an128-cbc - hmac-md5 - n1 68d11

```
top - 12:40:32 up 348 days, 23:54, 4 users, load average: 1.00, 0.97, 0.75
Tasks: 157 total, 1 running, 156 sleeping, 0 stopped, 0 zombie
Cpu(s): 12.5%us, 0.1%sy, 0.0%ni, 87.4%id, 0.0%wa, 0.0%hi, 0.0%st, 0.0%
Mem: 24688990k total, 24554204k used, 132776k free, 247682k buffers
Swap: 35158140k total, 15708k used, 35142432k free, 2264124k cached
```

PID	USER	PR	NI	VIRT	RES	SHR	S	%CPU	MEM	TIME+	COMMAND
5349	estoev	25	0	935m	110m	40m	S	99.9	0.5	21:43.18	MATLAB
1	root	15	0	10382	660	624	S	0.0	0.0	0:52.42	init
2	root	RT	-5	0	0	0	S	0.0	0.0	0:26.59	migration/0
3	root	34	19	0	0	0	S	0.0	0.0	0:27.24	keoflgs/0

Connected to centipede.gccc.itd.umich.edu SSH-Q - an128-cbc - hmac-md5 - n1 78d11

```
3:43, 5 users, load average: 2.01, 2.
159 sleeping, 1 stopped, 1 zombie
0%ni, 75.0%id, 0.0%wa, 0.0%hi, 0.0%
94k used, 10278184k free, 24780k buf
32k used, 3195346k free, 2988844k cac
```

RES	SHR	S	%CPU	MEM	TIME+	COMMAND
7.0g	2220	R	99.9	29.7	1150:08	stata-s
1.1g	9304	R	99.9	4.5	79:18.83	stata-s
480	624	S	0.0	0.0	1:32.42	init
0	0	S	0.0	0.0	0:17.97	migrati
0	0	S	0.0	0.0	0:11.61	keoflgs

SSH-Q - an128-cbc - hmac-md5 - n1 68d12

```
top - 12:40:30 up 346 days, 9:21, 9 users, load average: 2.00, 2.04, 1.94
Tasks: 142 total, 1 running, 141 sleeping, 0 stopped, 0 zombie
Cpu(s): 25.2%us, 0.1%sy, 0.0%ni, 74.7%id, 0.0%wa, 0.0%hi, 0.0%st, 0.0%
Mem: 24688990k total, 24534688k used, 152292k free, 321540k buffers
Swap: 35158140k total, 10784k used, 35147356k free, 22555496k cached
```

PID	USER	PR	NI	VIRT	RES	SHR	S	%CPU	MEM	TIME+	COMMAND
16655	eparadis	25	0	881m	158m	38m	S	102.6	0.4	1438:18	MATLAB
16174	estoev	25	0	871m	117m	40m	S	99.9	0.5	21:23.42	MATLAB
18416	shro	15	0	10652	1280	900	R	0.3	0.0	0:00.32	top
1	root	15	0	10382	664	612	S	0.0	0.0	1:40.77	init

Connected to donkeykong.gccc.itd.umich.edu SSH-Q - an128-cbc - hmac-md5 - n1 77d11

```
3:13, 8 users, load average: 3.70, 3.52, 2
175 sleeping, 0 stopped, 0 zombie
0%ni, 49.9%id, 0.0%wa, 0.0%hi, 0.0%st, 0.0%
900k used, 145080k free, 465612k buffers
196k used, 34926664k free, 21469432k cached
```

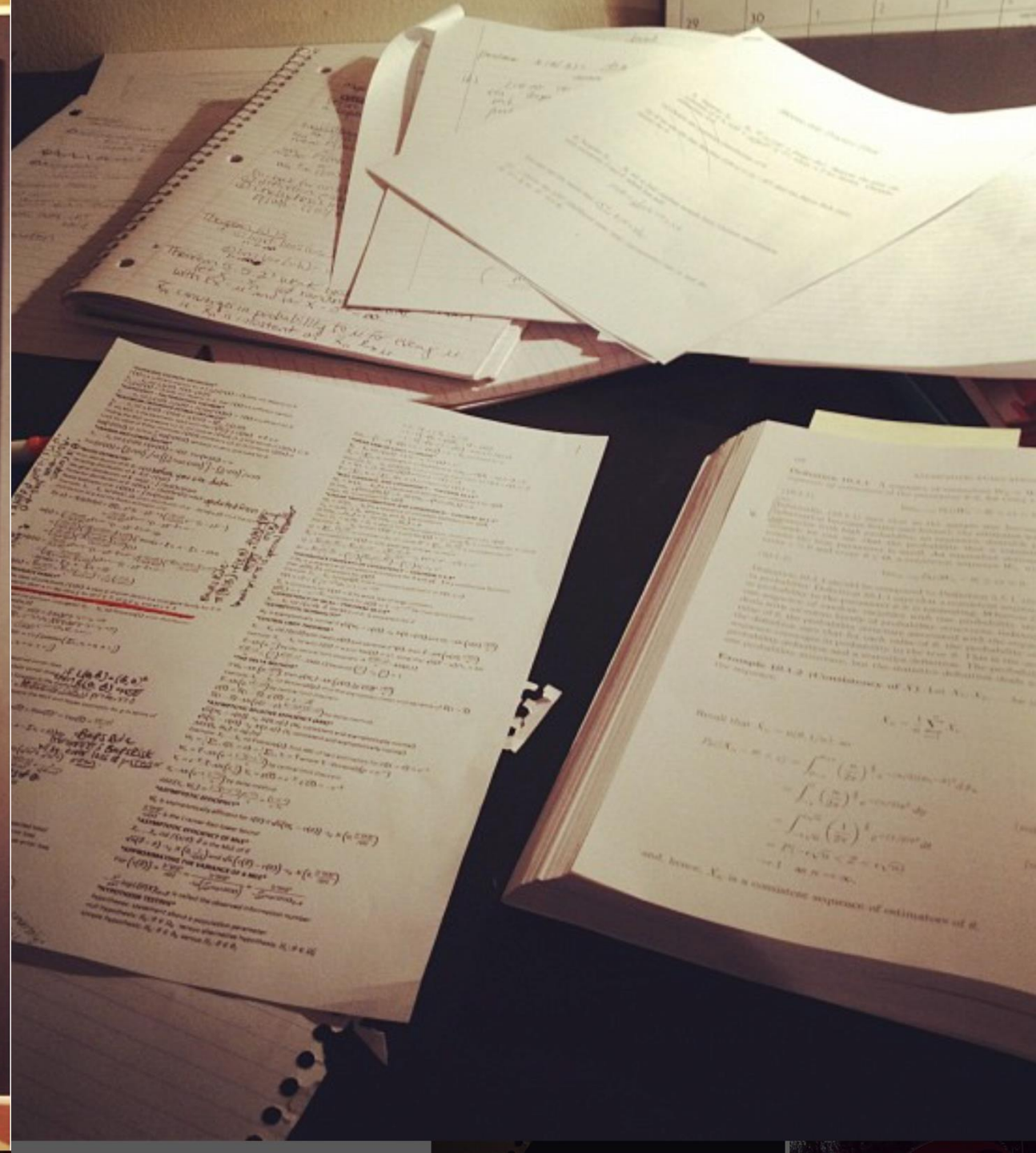
RES	SHR	S	%CPU	MEM	TIME+	COMMAND
116m	40m	S	100.2	0.5	19:21.33	MATLAB
1.0g	2924	R	100.2	4.3	7264:50	magma.exe
141m	2474	R	99.9	0.6	22:19.69	stata
117m	40m	S	99.8	0.5	16:56.17	MATLAB

SSH-Q - an128-cbc - hmac-md5 - n1 99d11

```
top - 12:40:33 up 47 days, 15:17, 6 users, load average: 2.81, 3.50, 2.74
Tasks: 173 total, 1 running, 171 sleeping, 0 stopped, 1 zombie
Cpu(s): 46.8%us, 1.9%sy, 0.0%ni, 48.3%id, 0.0%wa, 0.0%hi, 0.0%st, 0.0%
Mem: 24688990k total, 21341096k used, 3347894k free, 342460k buffers
Swap: 35158140k total, 2864424k used, 32293716k free, 1480758k cached
```

PID	USER	PR	NI	VIRT	RES	SHR	S	%CPU	MEM	TIME+	COMMAND
29112	sabek	25	0	1632m	710m	37m	S	118.1	2.9	2:28.08	MATLAB
26415	estoev	25	0	894m	115m	40m	S	99.9	0.5	21:45.06	MATLAB

Connected to choplifer.gccc.itd.umich.edu SSH-Q - an128-cbc - hmac-md5 - n1 76d





**No such thing as “I’m just the data person.”**

