CCRC COMMUNITY COLLEGE RESEARCH CENTER
Teachers College, Columbia University

The Dual Enrollment Expansion and Its Implications for College Enrollment at Institutions, Sectors, and Communities

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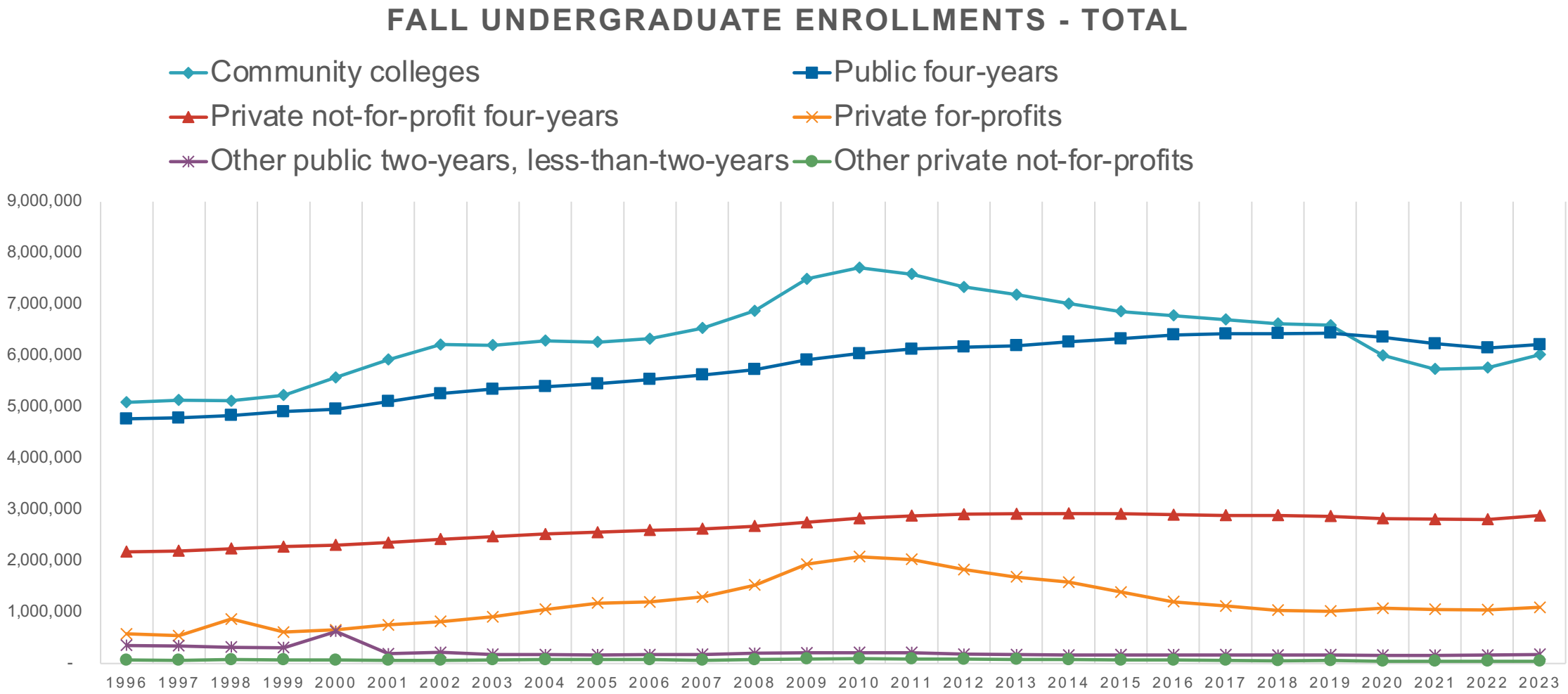
APPAM – November 13-15, 2025

Stagnant postsecondary enrollments, declining at community colleges



Source: IPEDS (2025), Fink (2025)

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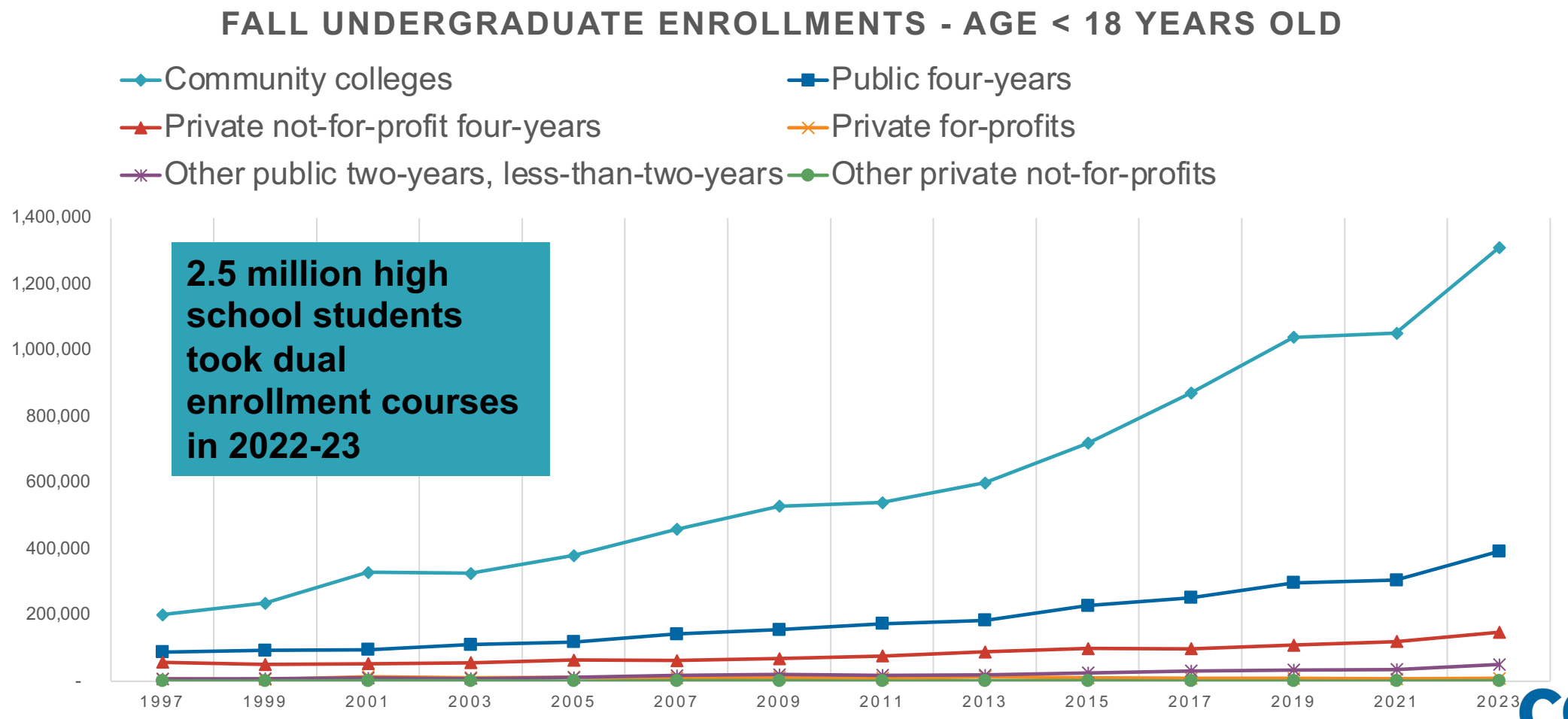
Growing enrollment of students under 18 years old – most of whom are dual enrollment students, especially at community colleges



Source: IPEDS (2025), Fink (2025)

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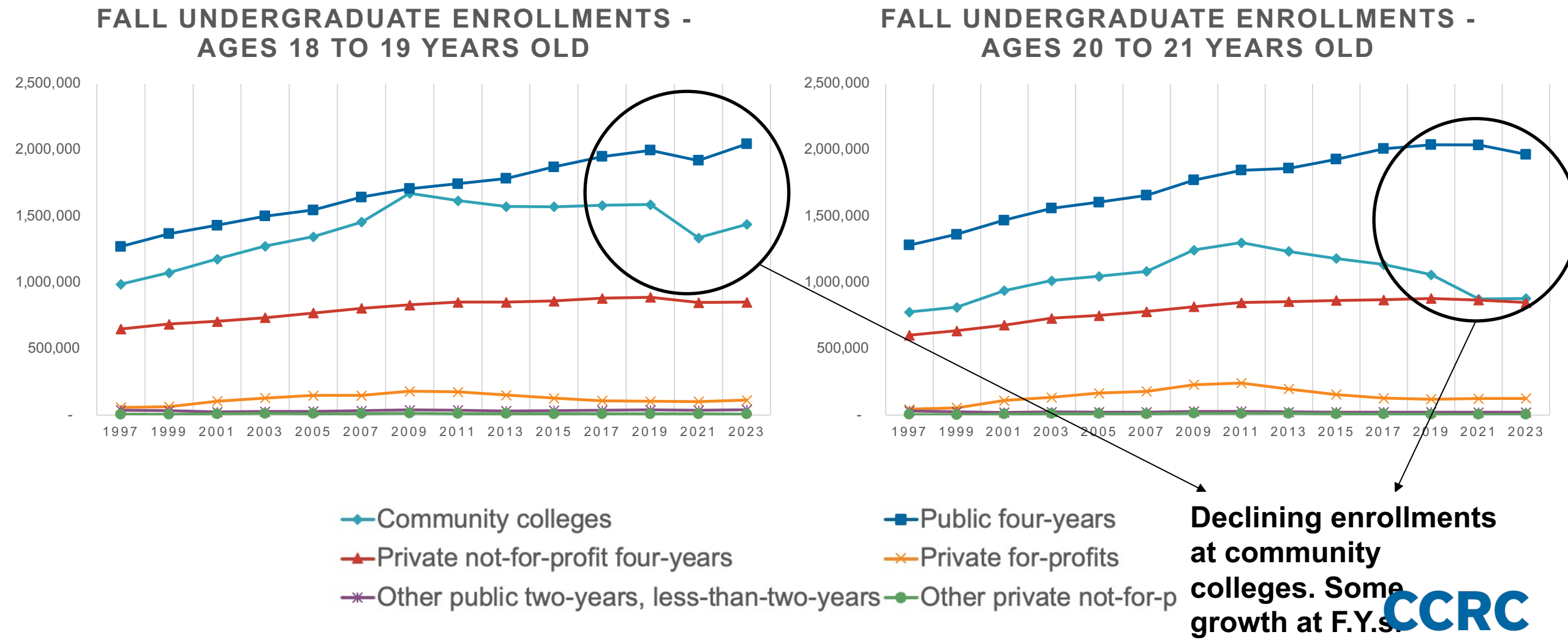
At community colleges, enrollment of “college-age” students does not pair with growth in dual enrollment.



Declining enrollments at community colleges. Some growth at F.Y.s.

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Source: IPEDS (2025), Fink (2025)

Is the growth in dual enrollment translating to more college-goers?

- A large body of research has documented the positive effects of dual enrollment on student outcomes (e.g. Atchison, Mohammed, Zeiser, Knight, & Levin, 2019; Berger et al., 2013, 2014; Giani et al., 2014; Liu et al., 2022; Song & Zeiser, 2019; Lee & Villarreal, 2022).
    - However, research has **focused on specific subgroups and policy contexts.** What's the net growth in postsecondary enrollment that can be attributed to DE?

- It could be the case that dual enrollment (DE) is not helping maintain/grow overall enrollment because:

  Students participating in DE were already college-bound,
  Colleges struggle to leverage DE to retain students toward postsecondary enrollment.
  DE policies are lacking effectiveness in promoting college onboarding and retention.

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Research questions

1. Has the expansion of dual enrollment boosted led to increased postsecondary matriculation for institutions and communities?

2. Which postsecondary **sectors** and localities have **benefited the most from** the growth in DE participation?

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Why should we care about overall DE growth in HEIs and communities?

DE is funded by a combination of state, local, K-12, and student resources, with large variations across states and over time (Fink and Jenkins, 2023).

- **For higher education institutions (HEIs)**, increased DE enrollment can *potentially* **increase revenue** through:
  - ☑ Expanding the target population to include high school enrollment.
  - ☑ Attracting more students to higher education (↑ 1st year postsecondary enrollment).
  - ☑ Increasing overall postsecondary enrollment (↑ re-enrollment).

  Leading to a higher return on DE investments

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Why should we care about overall DE growth in HEIs and communities?

- **For communities** if DE policies reach students who weren't planning on going to postsecondary education, and help them to earn a degree:
  - DE growth could **foster economic development** through increased productivity and well-being of the local workforce.

➡️ Communities that leverage DE to improve workforce training would see greater returns to their DE investments

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Data

- **Postsecondary Education Data System (IPEDS)** on fall enrollments by institution-year-age (2001-2023)
  - **Dual enrollment headcounts:** Number of students under 18 years old
  - **Fall enrollment of recent high school graduates:** Students between 18 to 19 years old
  - **Institution Sector, Locality, and county classification**
- **County to commuting zone crosswalk:** U.S. Department of Agriculture
- Commuting zone characteristics:
  - **Unemployment rate:** U.S. Bureau of Labor Statistics
  - **Population size by age group:** U.S. Department of Commence Bureau (CPE Program)
  - **GDP per capita (2017 dollars):** U.S. Bureau of Economic Analysis
  - **K-12 Enrollment:** National Center for Education Statistics' Common Core survey data
- Our final commuting zone-year sample consists of 3,677 institutions across 572 commuting zones with enrollments and commuting zone characteristics for every odd year from 2003 to 2023.

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Empirical Strategy

We measure how much an institutions' dual enrollment explains subsequent postsecondary enrollments of freshmen students over **20 years** using the following benchmark OLS specification:

Fall enrollment of students under 18 years old (DE) in the previous years (t-2)

Yearly shocks common to all institutions

Other characteristics

$$Ln(Enrollment)_{ic,t} = \beta_0 + \sum_{T=2003}^{2021} \beta_t \left[ln(DE)_{ic,t-2=T} \cdot D_t \right] + \lambda_t + \phi_i + X'_{c,t-1}\theta + \varepsilon_{ic,t}$$

Fall enrollment of 18 to 19 year-olds at institution i in commuting zone c, in year t (2003-2023).

Time-invariant institution characteristics

β_t: A 1% change in the enrollment of under 18 -year- olds (DE) in year t (odd) at the institution c is associated with a β_1% change in the enrollment of 18 to 19 -year- olds in the present year

➔ Although we allow the effect to vary by year, we report the AME, which represents the average year-specific elasticity.

➔ **We use the same strategy to measure this relationship at the commuting zone level.**

Measuring the *expansion rate*

	All Institutions
Lagged fall dual enrollment (ln)	0.100***
	(0.005)
Avg. Expansion rate	40%
Avg 1% change in the number of DEs (under 18-year-olds)	2.7
Avg. Associated change in postsecondary enrollment	1.1
Lagged fall DE X year interactions	x
Commuting zone controls	x
Average enrollments	
Postsecondary Enrollment	1065
Under 18-year-olds	265.2
Observations	40,447
Number of institutions	3,677

A **1%** change in the number of DE students explains **0.1%** change in enrollment

Expansion rate =
(Associated change in enrollment / 1% of DE students)

1% of 265 students

0.1% of 1,056 students

Expansion rate: Growth in postsecondary enrollment that is explained by the growth in DE

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There is a positive relationship between DE growth and 18 to 19 years-old enrollment across all institutions and sectors

	ln(enrollments 18 to 19 y.o.)					
		By Sector				
	All Institutions	Community Colleges	Public Four-year	Private Non-profit Four-Year	Private For-Profit Four-Year	Others
Lagged fall dual enrollment (ln)	0.100***	0.089***	0.067***	0.072***	0.137***	0.144***
	(0.005)	(0.009)	(0.016)	(0.007)	(0.014)	(0.012)
Avg. Expansion rate	40%	19%	56%	68%	161%	23%
Avg 1% change in the number of DEs (under 18-year-olds)	2.7	7.8	3.5	0.7	0.1	0.5
Avg. Associated change in postsecondary enrollment	1.1	1.5	2.0	0.5	0.1	0.1
Lagged fall DE X year interactions	x	x	x	x	x	x
Commuting zone controls	x	x	x	x	x	x
Average enrollments						
Postsecondary Enrollment	1065	1636	2909	693.7	66.90	79.80
Under 18-year-olds	265.2	775	353.3	73.38	5.722	50.42
Observations	40,447	9,515	6,259	12,144	8,525	4,004
Number of institutions	3,677	865	569	1,104	775	364

Notes: All estimates control by the following commuting zone characteristics: the lagged unemployment rate, the lagged logarithm of high school enrollment from grades16 to 8th, the lagged logarithm of the local GPD, and the lagged population ages 65 or more. Standard errors clustered at the institution level.

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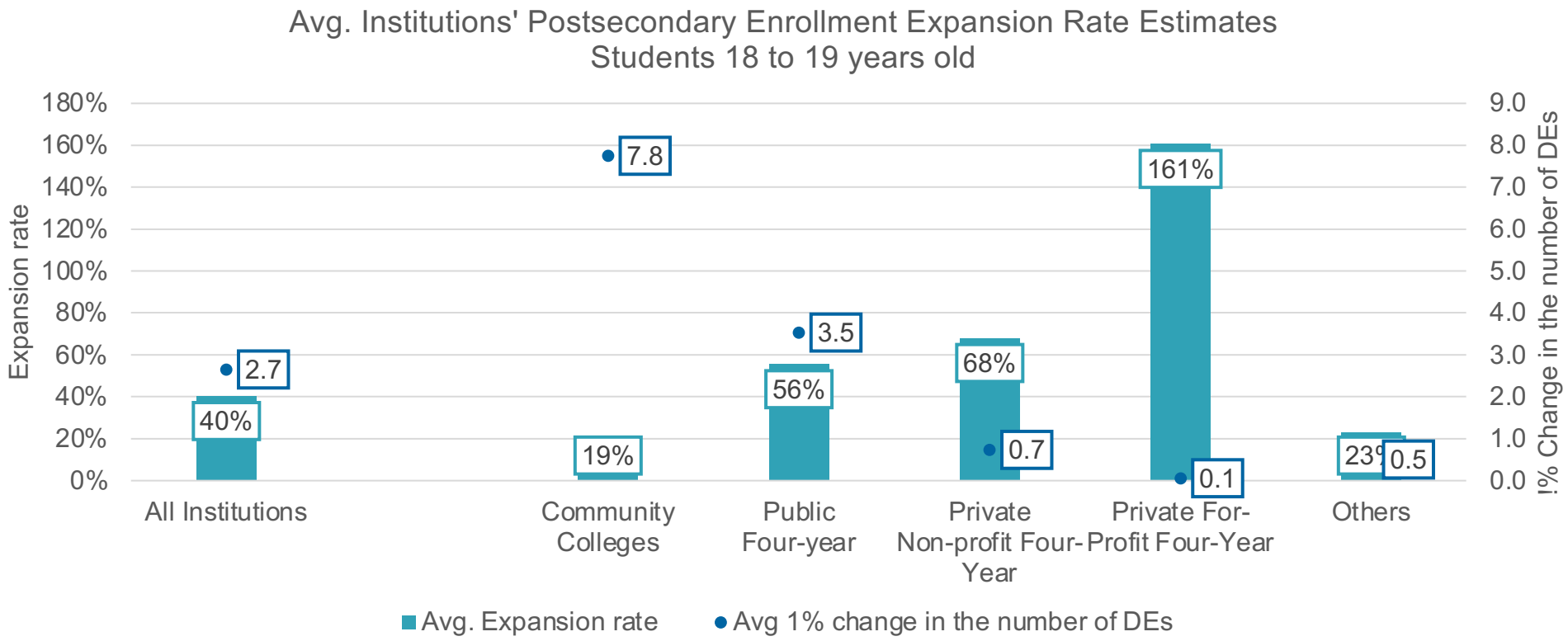
Dual enrollment benefits four-year institutions more, although overall levels remain higher in community colleges



Note: Based on estimates significantly different from zero with a 99% confidence

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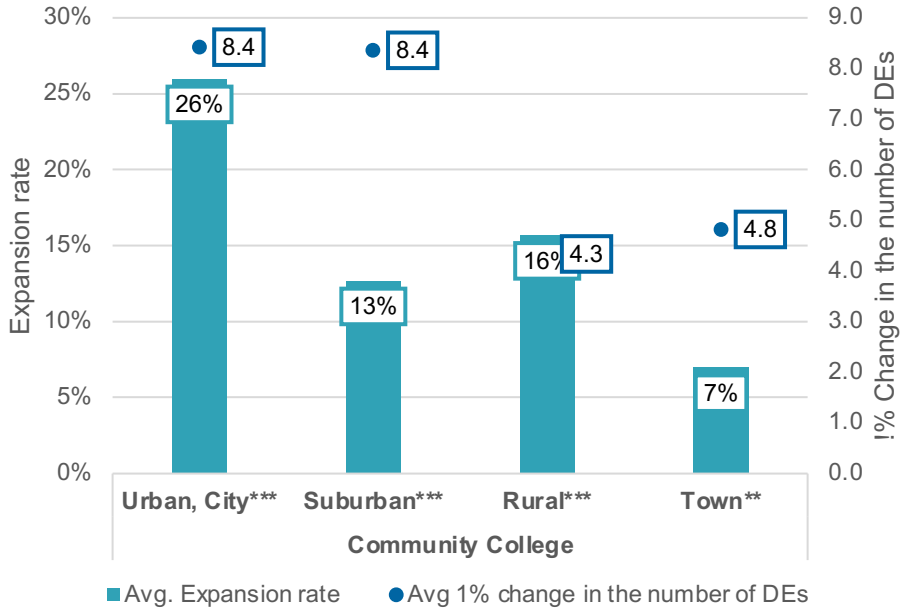
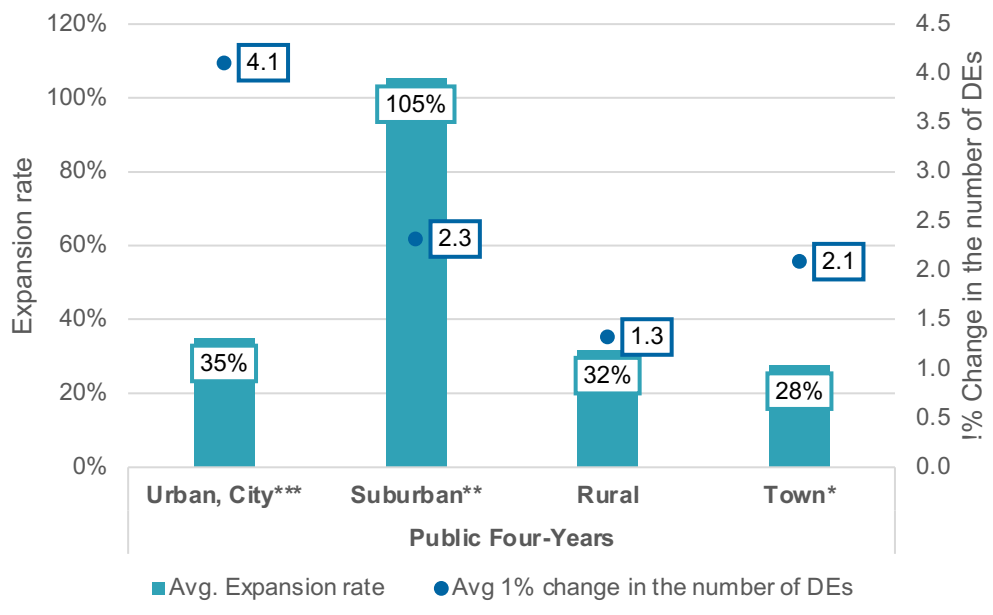
Dual enrollment growth benefits more institutions in urban/suburban localities





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Positive Relationship Between DE Growth and 18 to 19 Years-Old Enrollment at Commuting Zones

	ln(enrollments 18 to 19 y.o.)					
		By Sector				
	All Institutions	Community Colleges	Public Four-year	Private Non-profit Four-Year	Private For-Profit Four-Year	Others
Lagged fall dual enrollment (ln)	0.076*** (0.010)	0.112*** (0.014)	0.060*** (0.021)	0.070*** (0.012)	0.082*** (0.014)	0.130*** (0.015)
Avg. Expansion rate	30%	23%	50%	65%	108%	21%
Avg 1% change in the number of DEs (under 18-year-olds)	19.2	16.0	6.1	2.8	0.2	1.2
Avg. Associated change in postsecondary enrollment	5.7	3.7	3.0	1.8	0.2	0.2
Lagged fall DE X year interactions	x	x	x	x	x	x
Commuting zone controls	x	x	x	x	x	x
Average enrollments						
Postsecondary Enrollment	7539	3343	5074	2599	279.7	189.3
Under 18-year-olds	1924	1602	605.9	280	21.25	120.1
Observations	5,689	4,783	3,776	3,349	2,987	2,015
Number of Commuting Zones	572	439	347	307	307	196

Notes: All estimates control by the following commuting zone characteristics: the lagged unemployment rate, the lagged logarithm of high school enrollment from grades 1 to 8th, the lagged logarithm of the local GPD, and the lagged population ages 65 or more. Standard errors clustered at the institution level. Robust clustered standard errors at the commuting zone level in parentheses. *** p<0.01, ** p<0.05, * p<0.1

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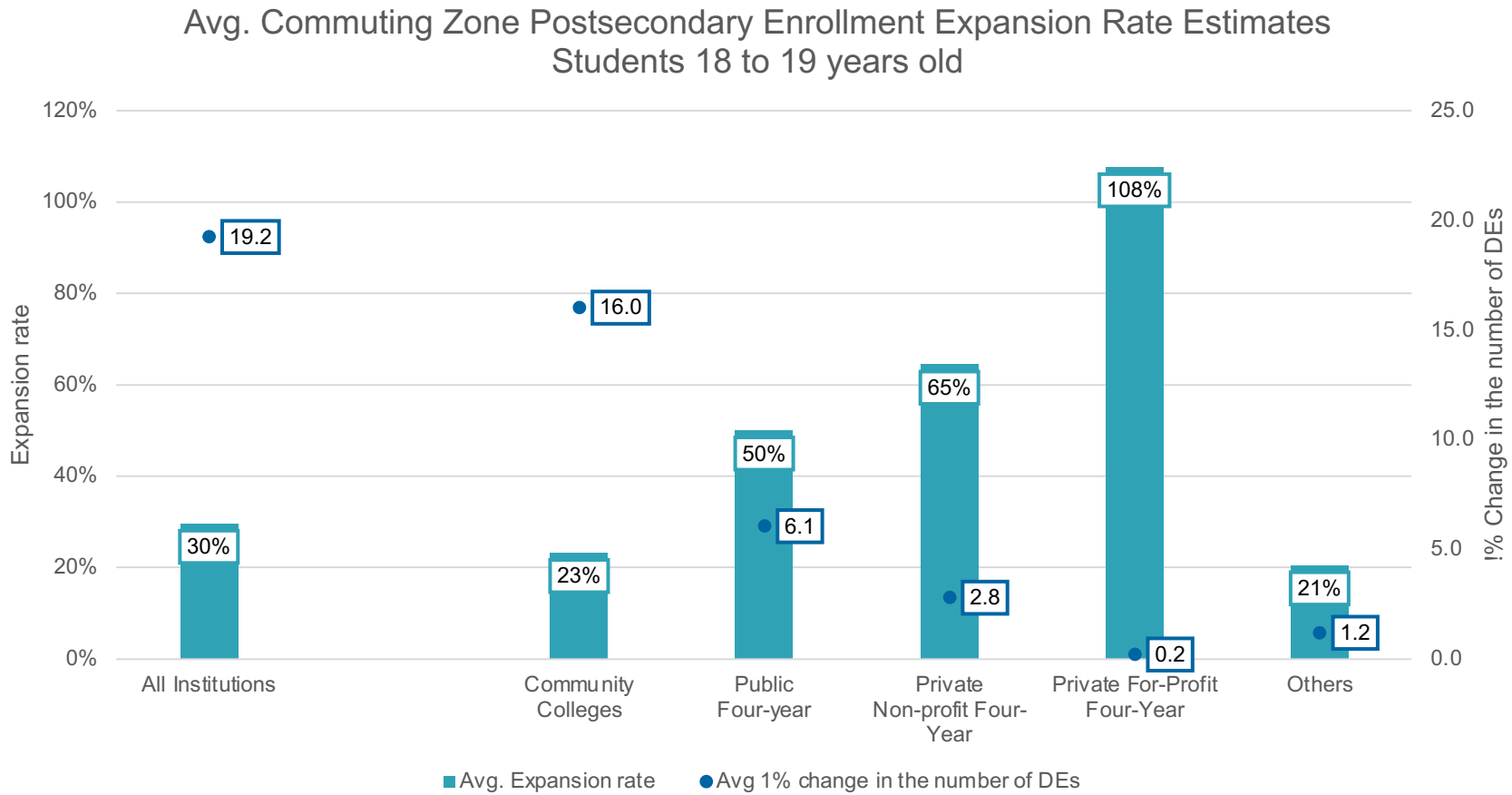
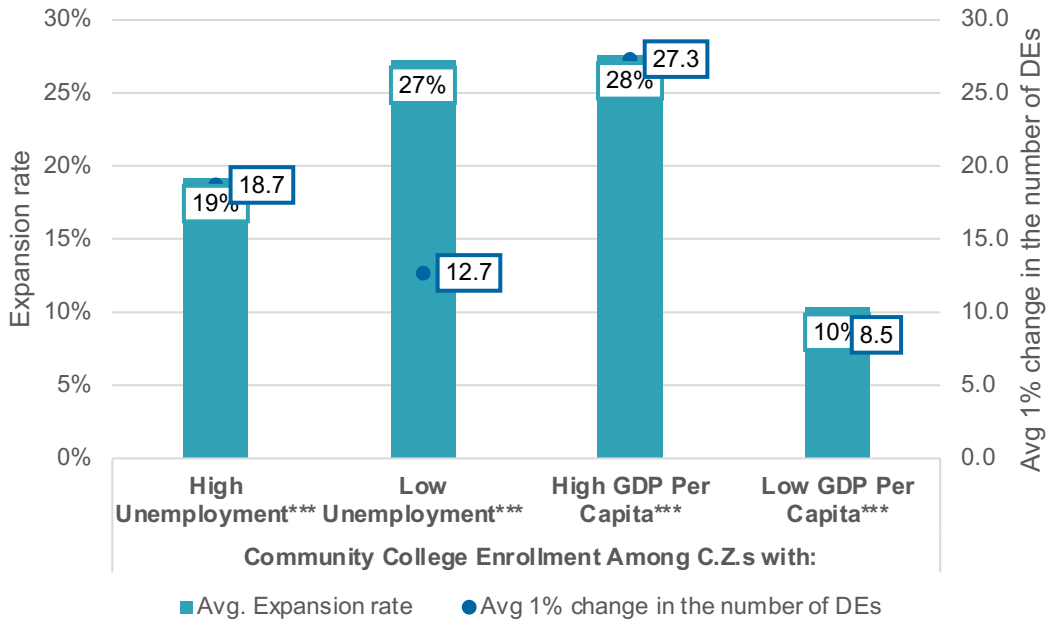
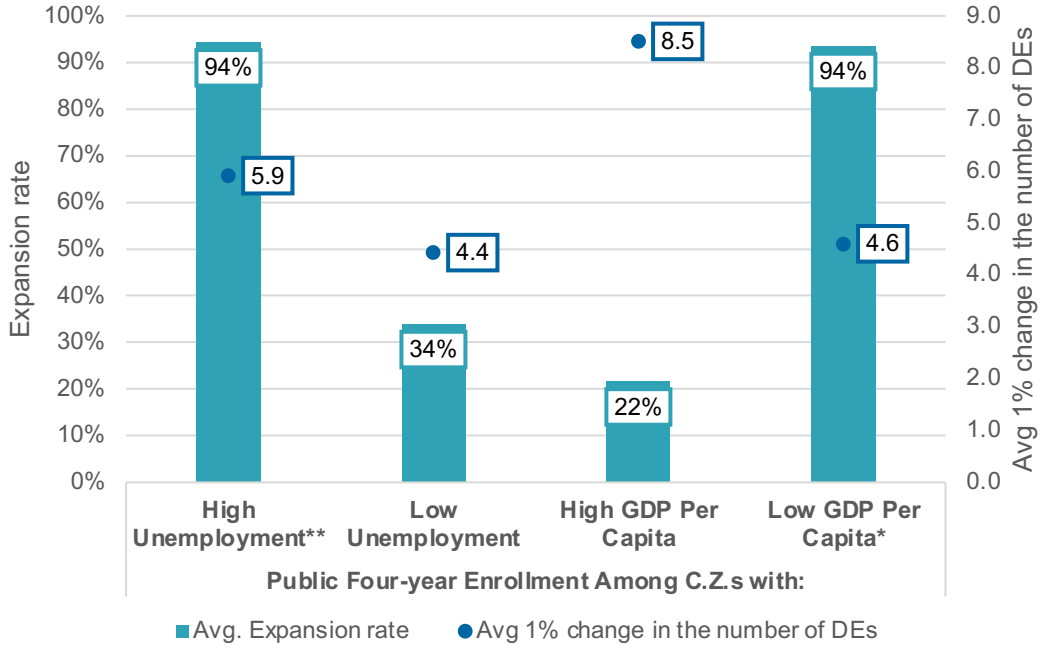
Dual enrollment accounts for a larger share of the increase in four-year college enrollment of commuting zones, although overall levels remain higher in community colleges



Note: Based on estimates significantly different from zero with a 95% confidence

In areas of low economic opportunity (high unemployment and low GDP per capita) DE growth is lower for community colleges, but higher for four-year institutions.





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Additional Results

- Results are similar but smaller for the relationship between DE and 20-21 yro enrollment

- **Spillover results only appear for dual enrollment at public four-years**
  - 21% of the expansion rate of community college freshmen enrollment rate is explained by DE growth coming from public four-year institutions
  - Public four-year DE courses seem to incentivize more demand than they can absorb given their selectivity

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Key takeaways

- Dual enrollment has grown nationwide, but the **DE growth does not match the growth in postsecondary enrollment at institutions and communities**.

- We estimate the relationship between growth in DE and the subsequent growth in postsecondary enrollment (18-to-19-year-olds).
  - **DE growth explains 40% of the postsecondary enrollment across institutions**
  - **The growth rate of postsecondary enrollment at the commuting zone level is at 23% but with large differences by sector and rurality**.

- These results may be overestimating the expansion rate of dual enrollment, especially for public four-year institutions. However, findings show promising results for community colleges.

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Thank you!

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