

# How the Dawn of Public Higher Education (1900-1940) Shaped Access and Work

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## Higher education in the US experienced its first major transformation in the early 1900s

- Many more students enrolled
- Public universities began to dominate in terms of enrollment

# Questions

- **How did the founding of public colleges change access to college?**
- How did the founding of public colleges change the labor force of local economies?

## Preview of identification approach

- **Identifying variation:** quasi-random founding date of a university
- Some people are lucky as they are born just late enough to access a new university
- Some people are unlucky as they are born too early to access a new university

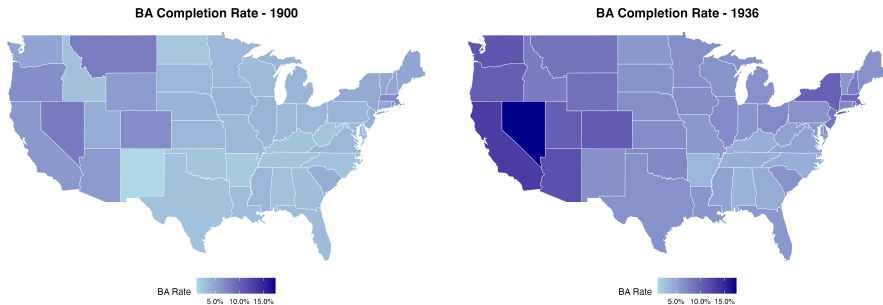
# Literature

- **History of US higher education (1900-1940):** Goldin (1998), Goldin and Katz (1998), Goldin (2001)
  - *My contribution:* Quantify the causal effect of university expansion on education access
- **Effects of university building in non-US countries:** Duflo (2001), Nimier-David (2023)
  - *My contribution:* US university foundings and variation in public vs private control
- **How proximity to college affects access:** Card (1993), Acton et al. (2025)
  - *My contribution:* Examine extensive margin of college access via new university foundings

## Trends in college attendance

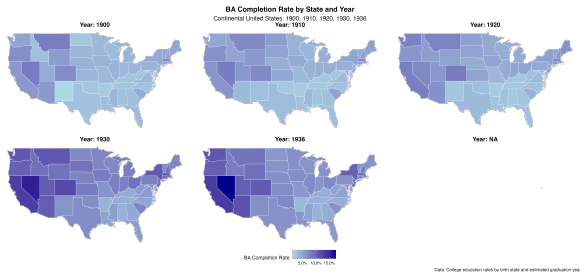
# BA Completion: 1900 vs 1936 Birth Cohorts

BA Completion Rate Comparison: 1900 vs 1936



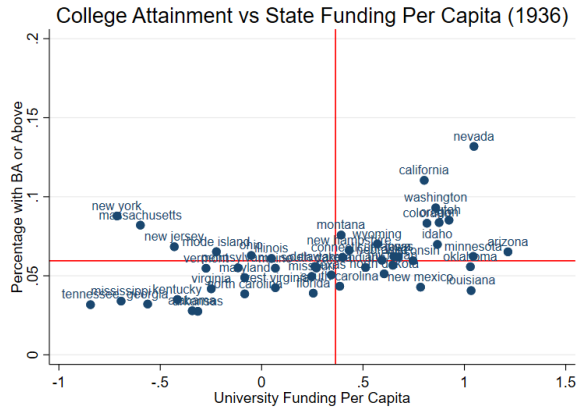
**Figure:** BA Completion: 1900 vs 1936 Birth Cohorts

# BA Completion Maps



**Figure:** Geographic Distribution of BA Completion





# College Enrollment Changes by State

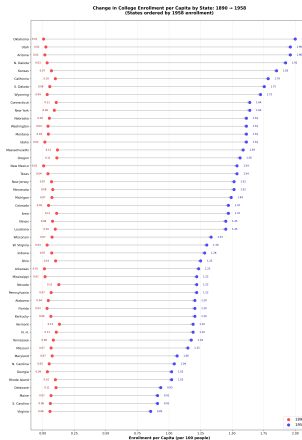
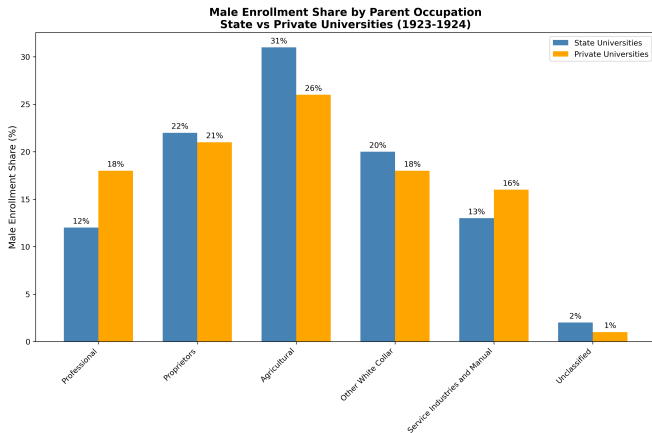


Figure: College Enrollments from Bowman (1962)

Who goes to public versus private higher ed?

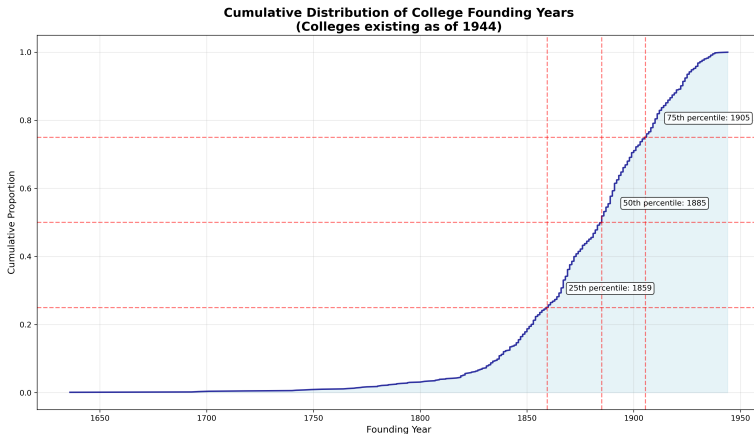
# Parent Occupations



**Figure:** Parent Occupations from Bowman (1962)

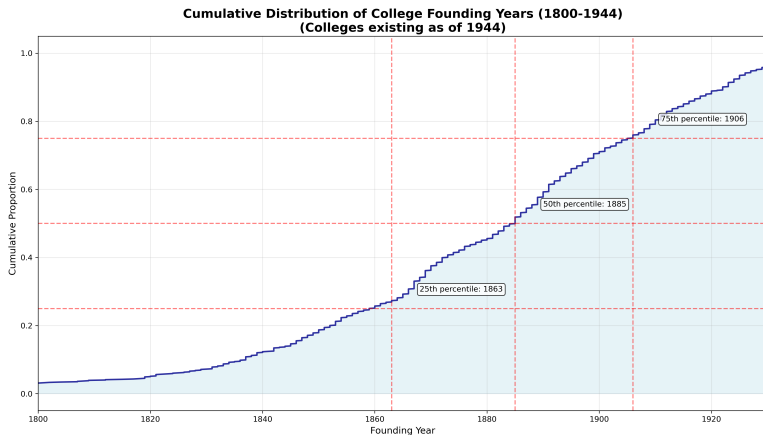
Founding year of colleges

# College Founding Years



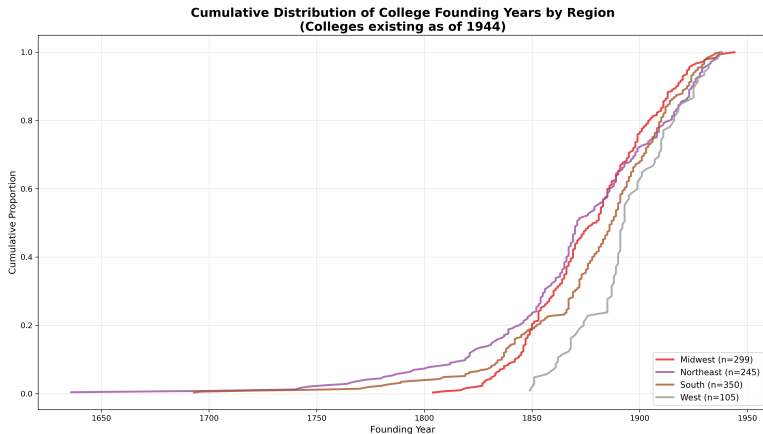
**Figure:** Cumulative Distribution of College Founding Years

# College Founding Years (1800+)



**Figure:** Cumulative Distribution of College Founding Years (1800+)

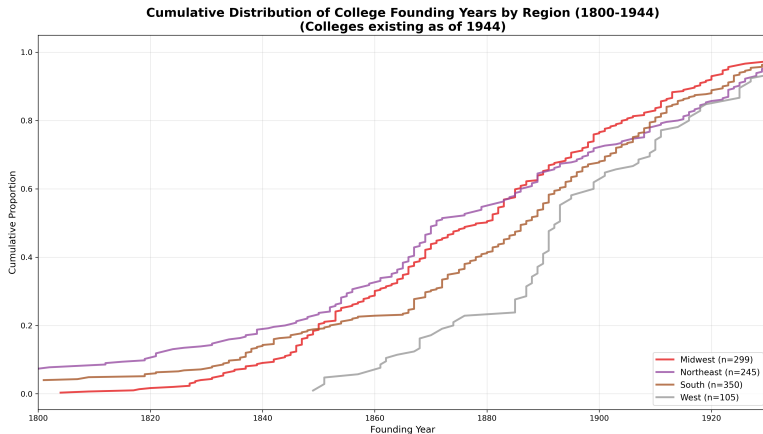
# College Founding Years by Region



**Figure:** Regional Distribution of College Founding Years

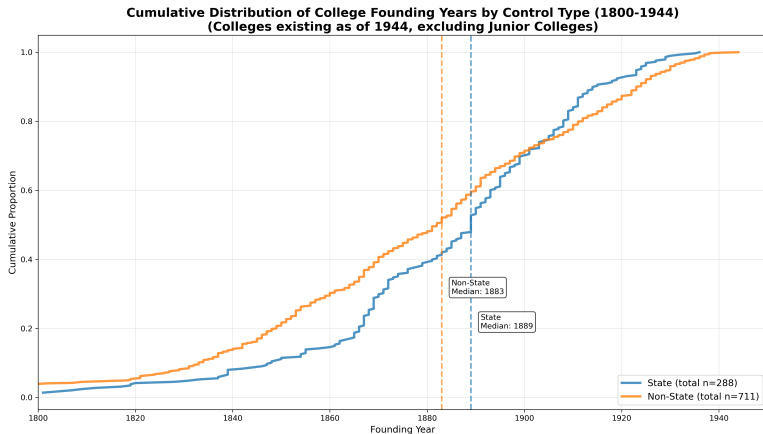


# College Founding Years by Region (1800+)



**Figure:** Regional Distribution of College Founding Years (1800+)

# College Founding Years by Control



**Figure:** Regional Distribution of College Founding Years (1800+)

# Estimating the effect of a university founding on college attainment

Cross sectional regression, identifying variation is at the cohort-by-county level.

$$y_{ick} = \alpha_c + \lambda_k + \beta \text{New college}_{ck} \times \lambda_k + \xi \mathbf{X}_{ick} + \epsilon_{ick} \quad (1)$$

- $c$ : county,  $k$ : age cohort,  $i$ : person
- $\text{New college}_{ck} = \mathbb{1}\{\text{There is a college founded in } c \text{ that is available to } k\}$

## The identification assumption

- Compare the gap in attainment between older cohorts and younger cohorts in counties that have a new college versus those that do not
- **Identifying assumption:** Conditional on controls, counties that gained a college and those that didn't would have experienced parallel trends in attainment across cohorts, absent the new college.

## Testing parallel trends: Event study specification

To test for pre-trends and trace out dynamic effects, estimate:

$$y_{ick} = \alpha_c + \lambda_k + \sum_{j \neq -1} \beta_j \mathbb{1}\{\text{Cohort } k \text{ born } j \text{ years relative to college founding in } c\} + \xi \mathbf{X}_{ick} + \epsilon_{ick} \quad (2)$$

- $j < 0$ : Cohorts born *before* college founding (test for pre-trends)
- $j \geq 0$ : Cohorts born *after* college founding (treatment effects)
- Omit  $j = -1$  as reference category
- Null hypothesis:  $\beta_j = 0$  for all  $j < 0$  (no pre-trends)

## Regional Control of Colleges

**Table:** Colleges Founded 1900-1940 by Region and Control Type (Excluding Junior Colleges)

Region	State Controlled	Non-State Controlled	Total
Northeast	11	58	69
South	47	67	114
Midwest	19	52	71
West	10	30	40
<b>Total</b>	<b>87</b>	<b>207</b>	<b>294</b>

## What next?

- Still cleaning my historical tables on enrollments
- Will have better data on program enrollments and associated analysis

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