

C. Goldin and L. Katz,
The Origins of State-Level Differences in Public provision of Higher Education:
1890-1940.,
American Economic Review, Vol 88, No2, Papers and Proceedings , May 1998

Questions:

- 1) Why did higher education enrollments increased more in the public than in the private sector (before the big expansion in higher education enrollments that started in 1940)?
- 2) Why did states provide differential support to higher education in that period? (although state rankings in 1998 are similar to 1930's, the proportional differences were much greater in the past).

Tools used to answer these questions:

historical analysis plus simple theory, regression analysis for question (2)

Paper Structure:

Introduction: Most salient facts on public/private higher education and state support; related papers; questions that will be addressed.

I and II: supply and demand factors, evolution of sector, anecdotal evidence, shocks to technology.

III: Why public institutions grew faster than private?

IV: What explains public support for public education? Regression analysis

V: Conclusion

Introduction - Facts

1897: PU (Public) /PRI (Private) enrollment in 4 years institutions = 22%

1998: same variable is 67%

However expansion of public sector was mainly done before 1940.

Differences in public enrollment and public support across states considerable but narrowed after 1950 (Central and Mountain gave significantly higher support than NE states).

Persistence of indicators.

I/II/III

Period 1890-1940 trends, shocks, theory.

Demand:

increase in high school graduation rates, increase in demand for formal training in biochemistry, engineering, agricultural sciences, medicine, law (before 1920 a high percentage was trained on the job, but then science started to be used in industry requiring formal training).

Supply:

around 1900 big changes in the way higher education was provided.

Before a few faculty taught a variety of subjects.

New characteristics: specialization, lecture method, practically oriented courses, diffusion of knowledge (**teaching**) linked to creation of knowledge (**research**) because of complementarities. These implied **economies of scale** in the provision of higher education.

Other changes: secularization of college, growth of professional schools, issue of reputation for new fields (medicine, etc).

Growth:

Public institutions grew much faster than private. Why?

The supply and demand changes favored them over the private.

Enrollments in technical fields increased more than in liberal arts giving advantage to public.

States subsidized training and research in fields that they perceive a need (WI dairy, Iowa corn, NC tobacco, Texas and Oklahoma oil)

Old privates also grew since they had a "reputation" behind them.

IV. Differences across states

Variables: level and distribution of wealth, community homogeneity and stability, importance of industry that can capture localized benefits of state institutions, existing private institutions.

Ex of results: Priv. enrollment: Massachusetts (3.35) Iowa (0.99), then

$$(3.35 - 0.99) \times .258 = -0.61 \text{ (in ln)}$$

Then $e^{0.61}$

$$= 1.84 .$$

This can be interpreted: the higher private enrollment rate results in an 84% decrease in state/local support for higher education.

TABLE 1—DETERMINANTS OF STATE SUPPORT
FOR HIGHER EDUCATION, 1929

Independent variable	Regression		
	(i)	(ii)	(iii)
Log automobile registrations per capita, 1930	1.306 (0.278)	1.06 (0.274)	
Log agricultural income per agricultural worker, 1900			0.339 (0.153)
Fraction Catholic, 1910, 1926 ^a	-0.631 (0.584)	-0.628 (0.542)	-1.09 (0.515)
Fraction of labor force in mining, 1930	4.14 (1.59)	2.38 (1.62)	
Fraction of labor force in manufacturing, 1930	2.47 (1.57)	3.05 (1.47)	
Fraction of labor force in agriculture, 1930	1.73 (0.848)	1.45 (0.793)	
West (West North Central, Mountain, and Pacific)	0.803 (0.261)	0.782 (0.243)	
South (South Atlantic, East South Central, West South Central)	0.753 (0.244)	0.667 (0.229)	
East North Central	0.493 (0.206)	0.386 (0.195)	
Private college enrollments per 1,000 residents, 1900		-0.258 (0.0952)	-0.294 (0.115)
Year of statehood $\times 10^{-2}$			0.503 (0.202)
Constant	-1.68 (1.79)	-0.115 (1.76)	-3.88 (3.43)
R^2 :	0.759	0.798	0.645
Mean squared error:	0.322	0.298	0.371
Number of observations:	48	48	48

Notes: The dependent variable in all regressions is the log of per capita revenues of higher-education institutions from state and local governments. Numbers in parentheses are standard errors.

^aThe 1926 figure is used for columns (i) and (ii); the 1910 figure is used for column (iii).