Worldwide trends

- Enrollment growth
- Diffusion of Euro-American research university model
- Increased research activity
- Intensified competition (rankings / metrics / markets)
- Accountability to social and economic responsiveness

Experiences within universities & academic departments

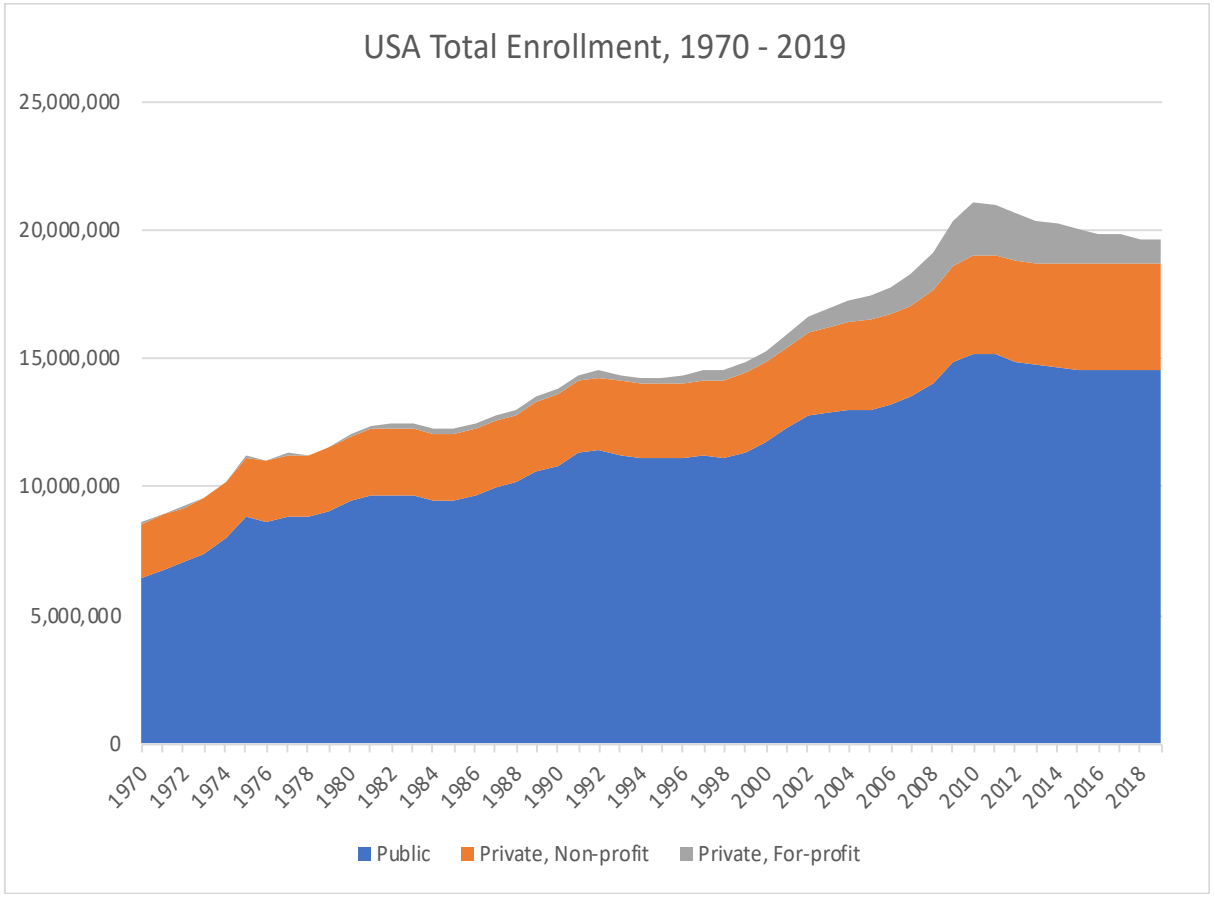
- New Public Management / Academic Capitalism
  - Academic managers actively prioritize some activities, redirecting resources to reflect managerial preferences
- Increased pace of work / growing expectations
- Growing precarity and uncertainty in academic careers
  - Difficult job market, jobs available are often contingent (short term contracts dependent on grant income)

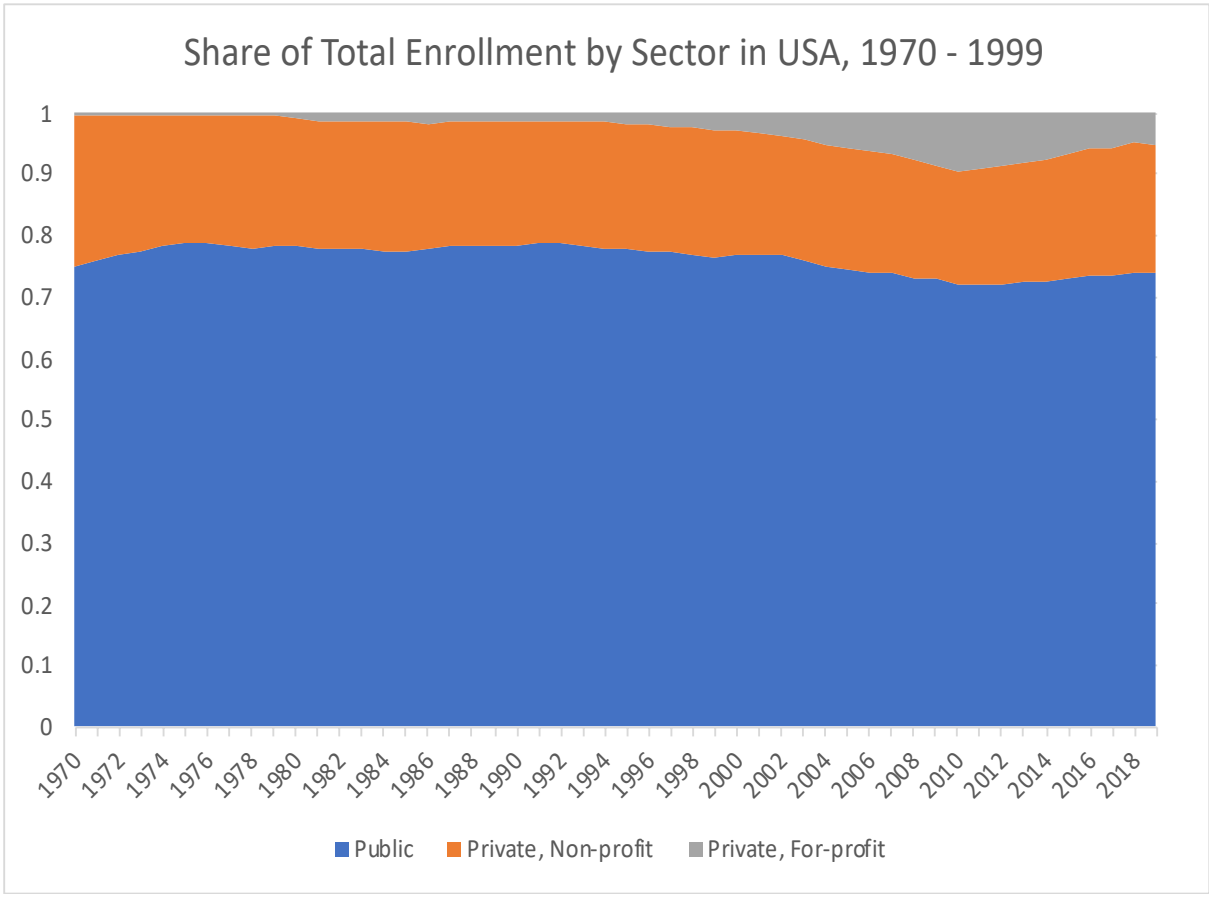
USA

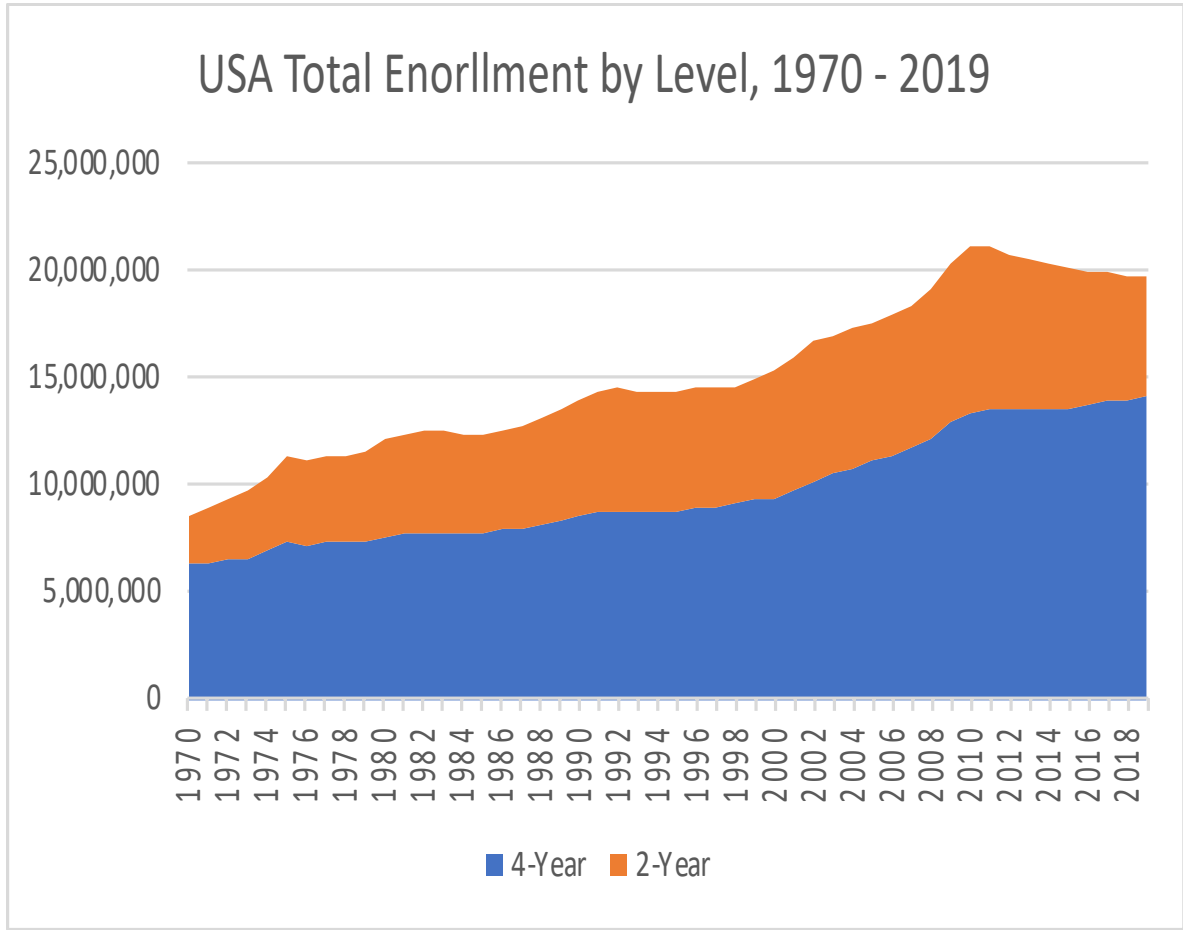
- Highly marketized
- Strong administration, academic capitalism management
- Growing public discontent
  - Highly partisan but broad-based anxiety about costs and employment outcomes
- “new faculty majority”
  - Often cited statistic: 75% of faculty off the tenure track
- Arts, humanities, and some social sciences widely seen as disfavored
- Predictions of widespread program and even intuition collapse

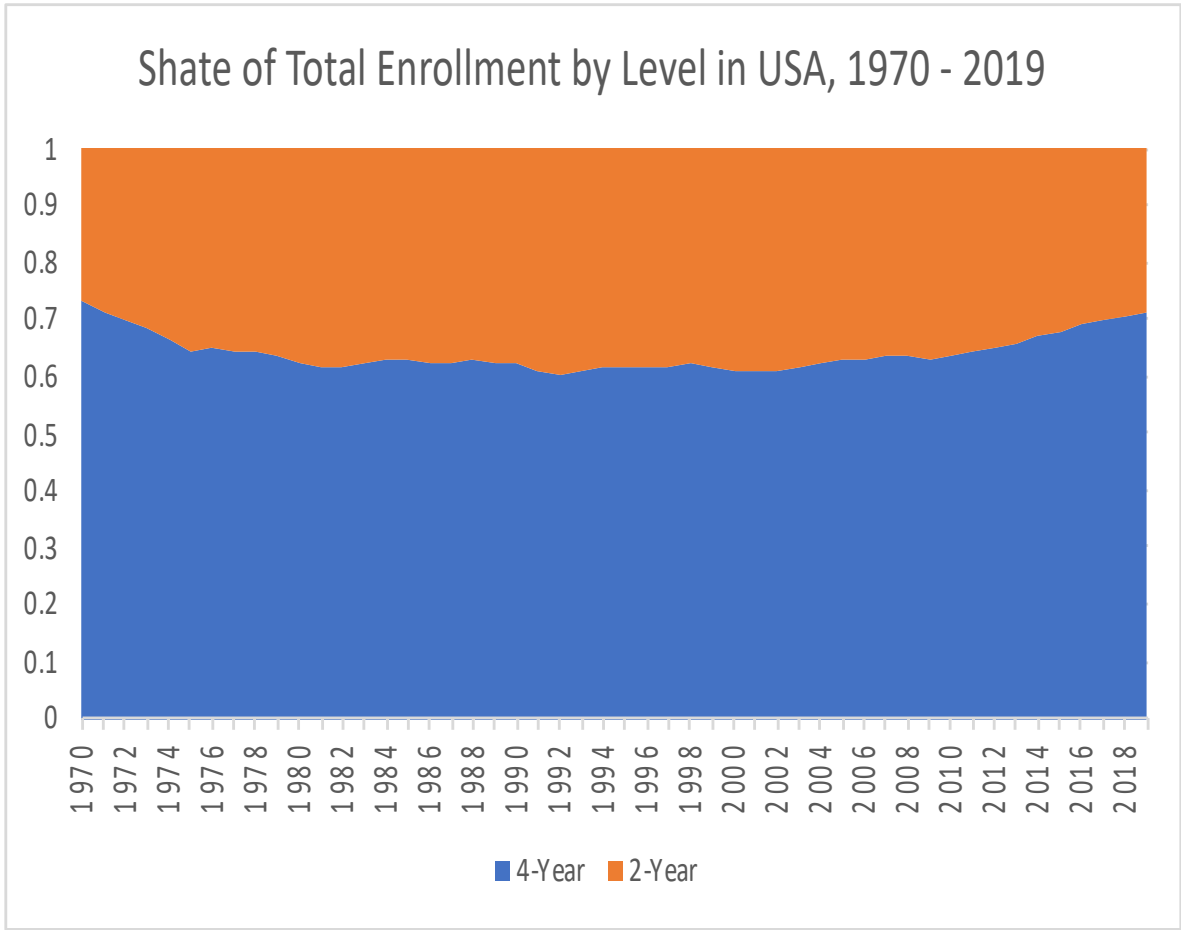
Longview stability

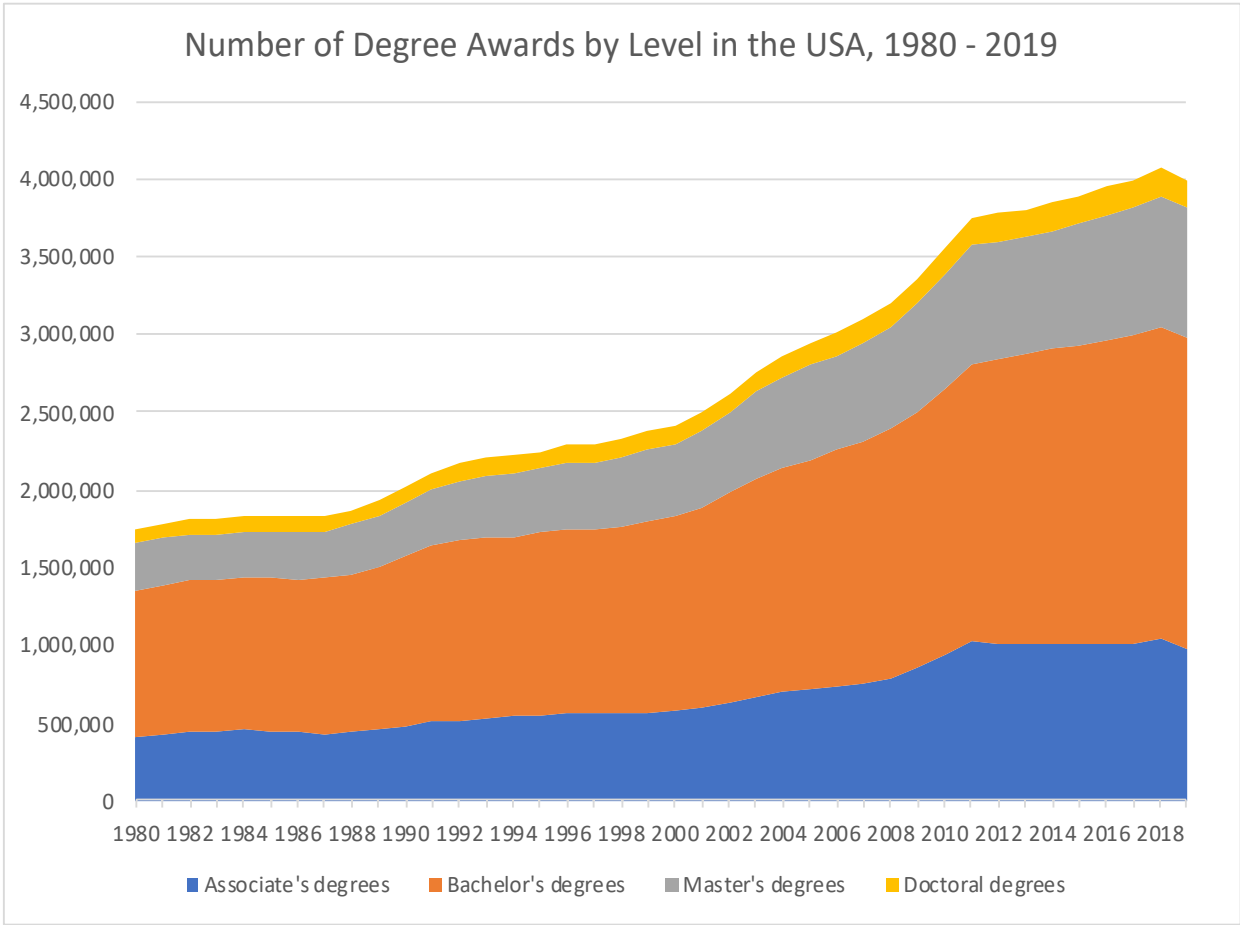
- Recent long-view treatments of higher education seem to contrast the turbinate story
  - Expansion and stability
    - ‘system’ grows but in many regards stays the same
  - Ability to absorb new activities without dispensing with existing ones
  - Faculty market and tenure system sustains strong research system

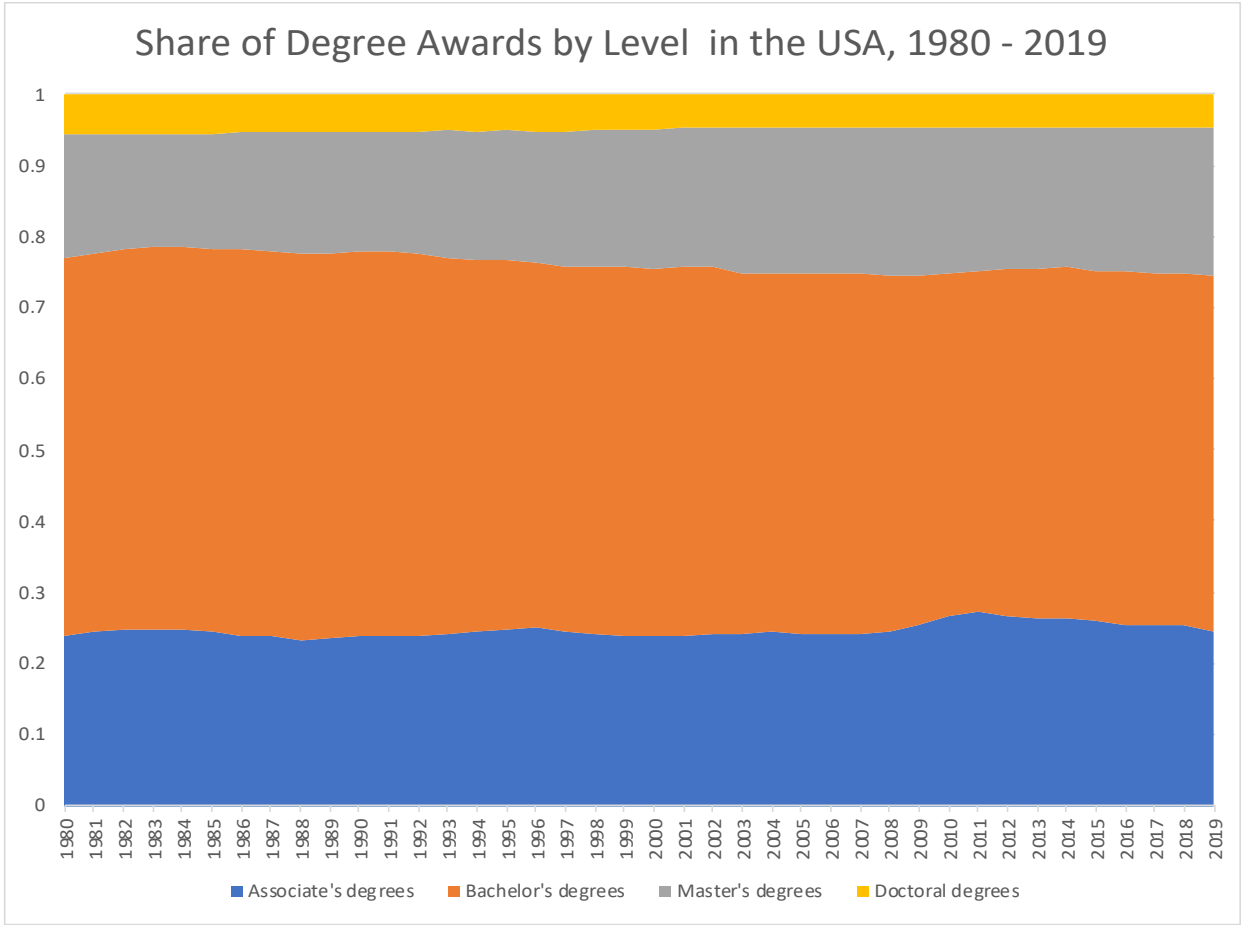

USA Total Enrollment, 1970 - 2019
25,000,000
20,000,000
15,000,000
10,000,000
5,000,000
0
1970 1972 1974 1976 1978 1980 1982 1984 1986 1988 1990 1992 1994 1996 1998 2000 2002 2004 2006 2008 2010 2012 2014 2016 2018
Public
Private, Non-profit
Private, For-profit


Share of Total Enrollment by Sector in USA, 1970 - 1999
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
1970 1972 1974 1976 1978 1980 1982 1984 1986 1988 1990 1992 1994 1996 1998 2000 2002 2004 2006 2008 2010 2012 2014 2016 2018
Public
Private, Non-profit
Private, For-profit


USA Total Enorllment by Level, 1970 - 2019
25,000,000
20,000,000
15,000,000
10,000,000
5,000,000
0
1970
1972
1974
1976
1978
1980
1982
1984
1986
1988
1990
1992
1994
1996
1998
2000
2002
2004
2006
2008
2010
2012
2014
2016
2018
4-Year
2-Year

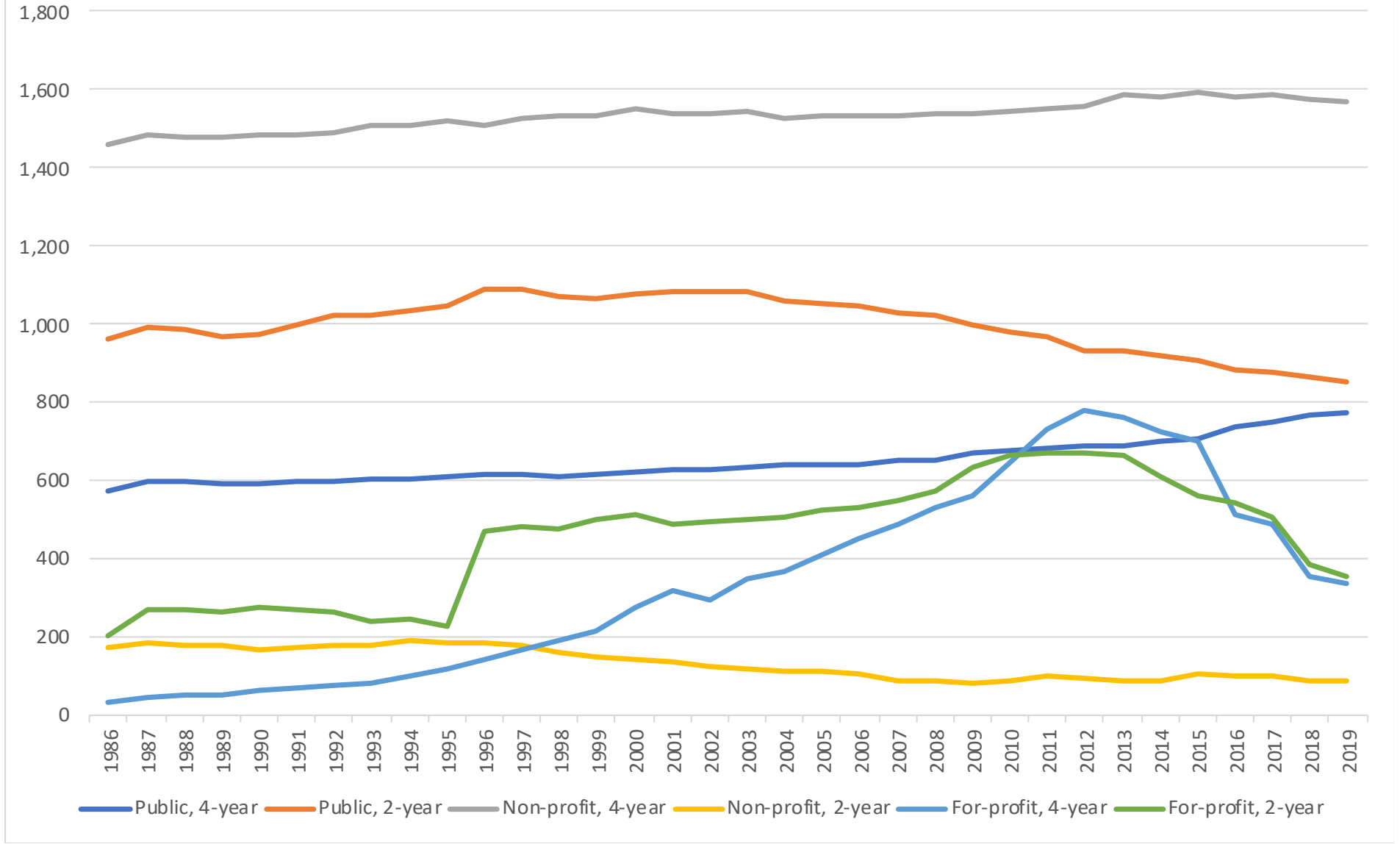

Shate of Total Enrollment by Level in USA, 1970 - 2019
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
1970
1972
1974
1976
1978
1980
1982
1984
1986
1988
1990
1992
1994
1996
1998
2000
2002
2004
2006
2008
2010
2012
2014
2016
2018
4-Year
2-Year


Number of Degree Awards by Level in the USA, 1980 - 2019
4,500,000
4,000,000
3,500,000
3,000,000
2,500,000
2,000,000
1,500,000
1,000,000
500,000
0
1980 1982 1984 1986 1988 1990 1992 1994 1996 1998 2000 2002 2004 2006 2008 2010 2012 2014 2016 2018
Associate's degrees
Bachelor's degrees
Master's degrees
Doctoral degrees


Share of Degree Awards by Level in the USA, 1980 - 2019
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
1980 1981 1982 1983 1984 1985 1986 1987 1988 1989 1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019
Associate's degrees
Bachelor's degrees
Master's degrees
Doctoral degrees

Number of institutions by type in the USA, 1986/7 - 2019/20

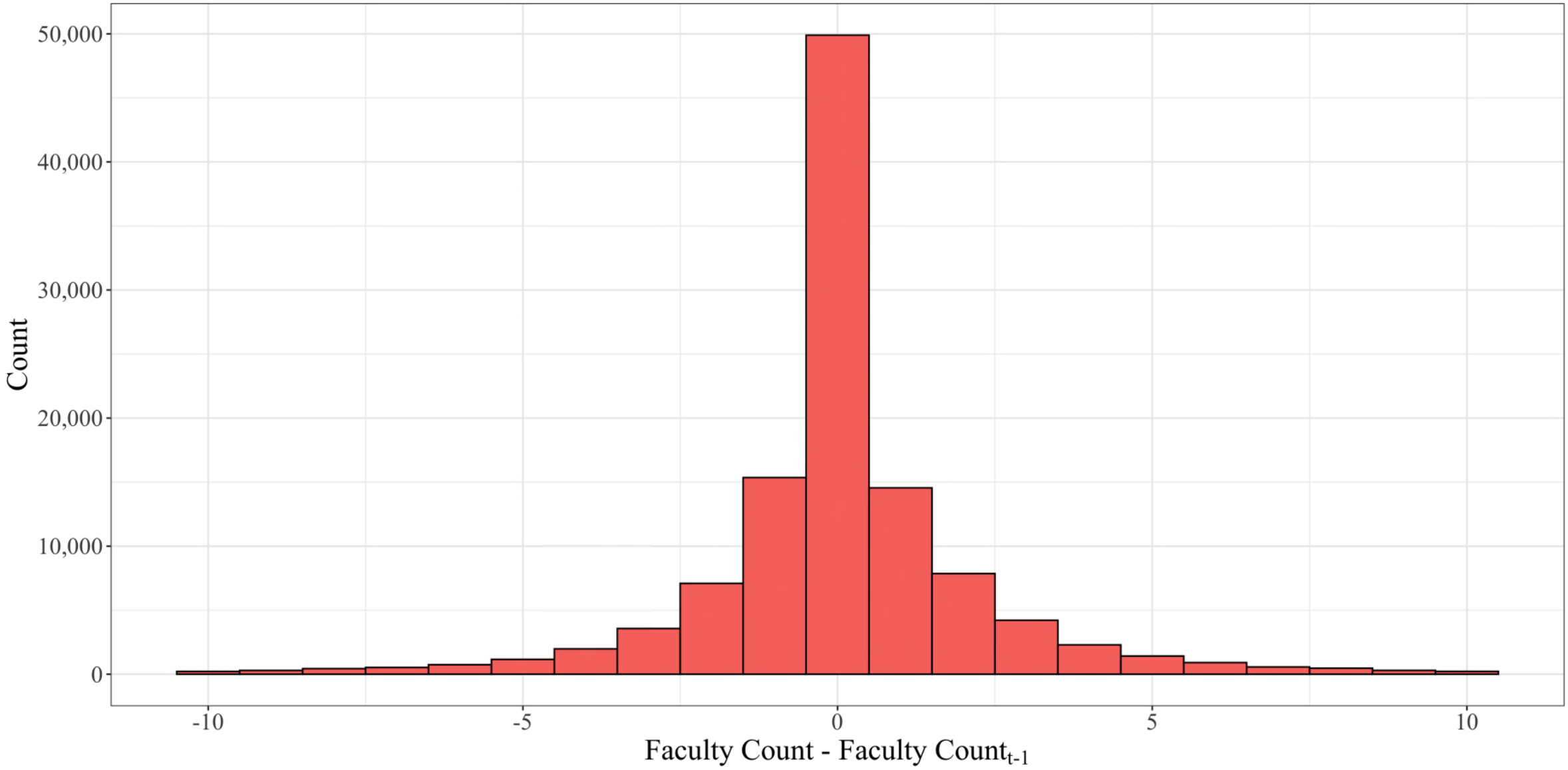
Source: NCES *Digest of Education Statistics, 2020*, Table 317.10

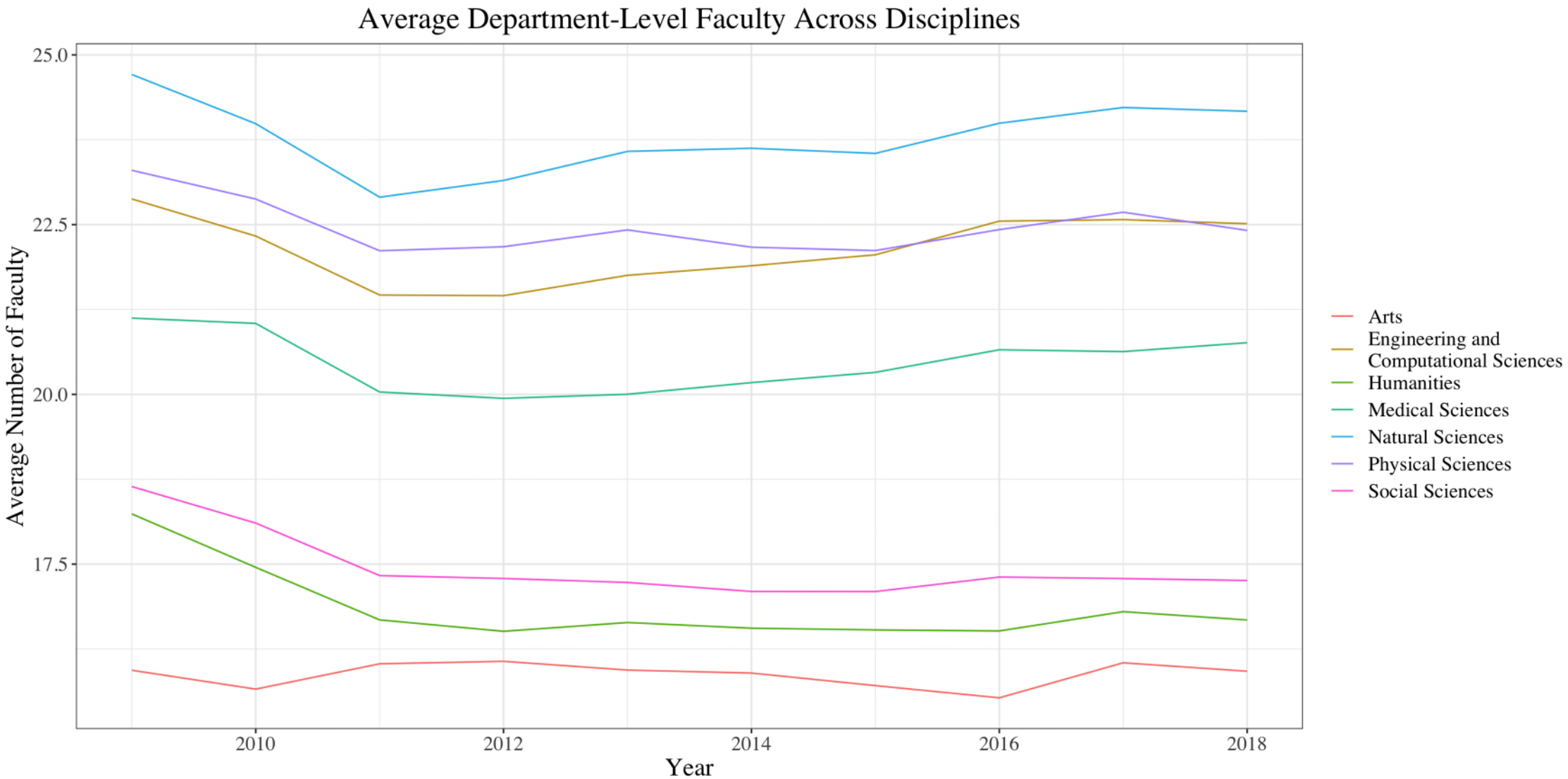


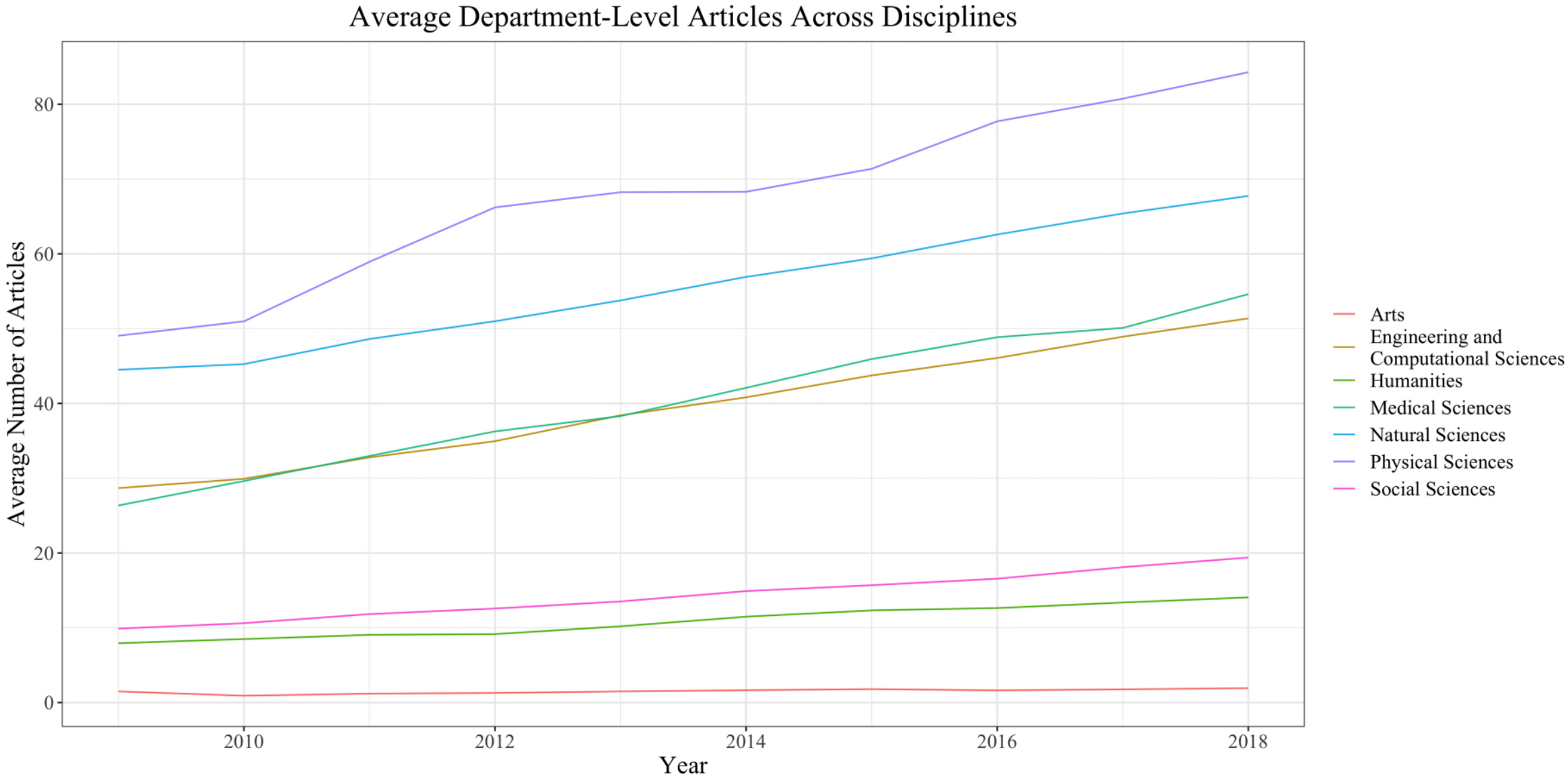
How is this playing out inside US universities?

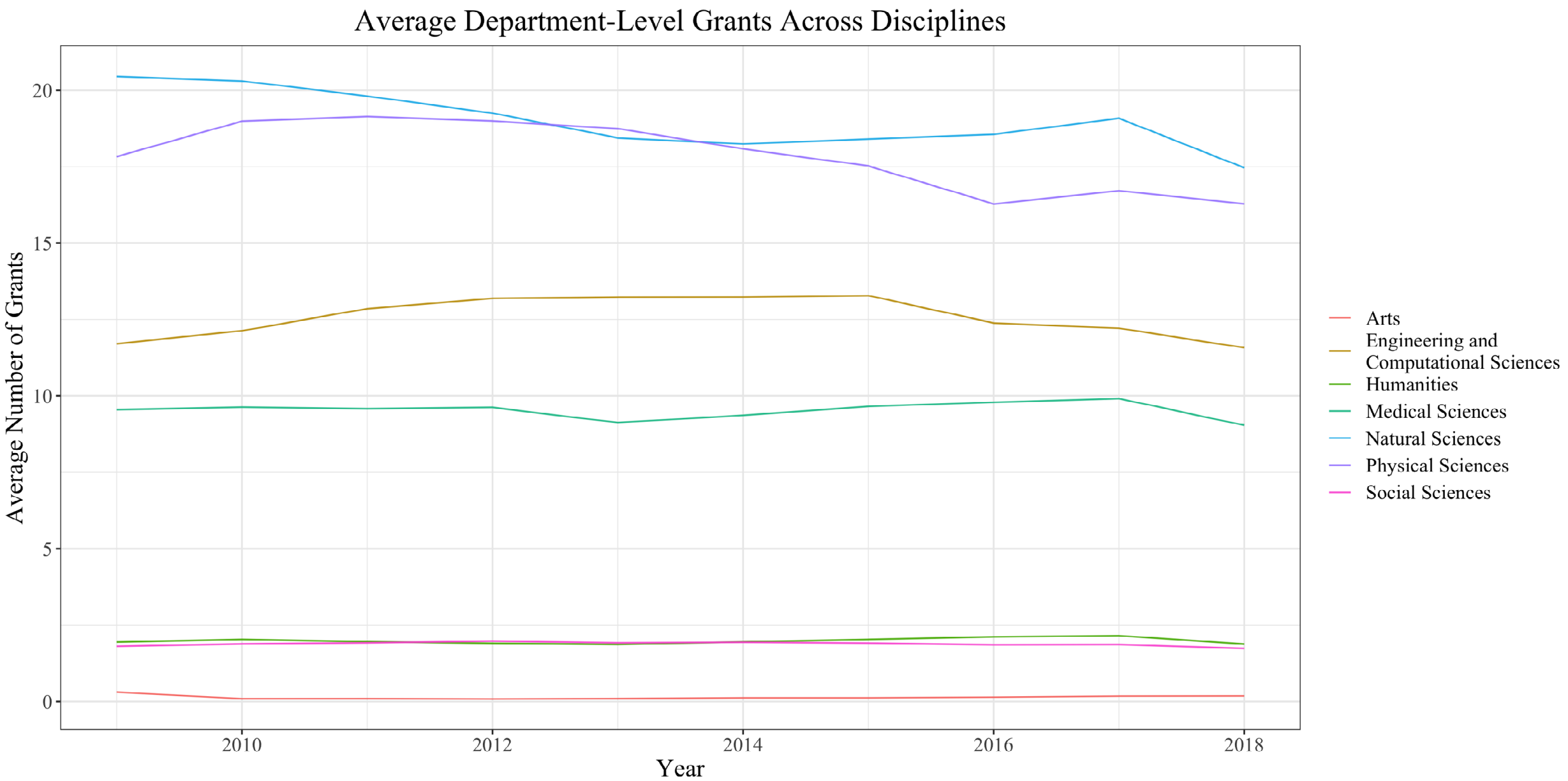
- Does overall picture of stability and growth translate within departments?
- Examine change in academic departments (Academic Analytics)
  - 30,748 department years in 330 universities
- Evidence of active managerial prioritization?
  - Market logics (shift into grant earning fields)
  - Academic logics (reward publications and citations)
  - Organizational inertia (path dependence)
- Check with federal data: change in disciplinary composition academic staff
  - NCES, NSF, BLS

Persistence of Faculty in Departments, Academic Analytics Data

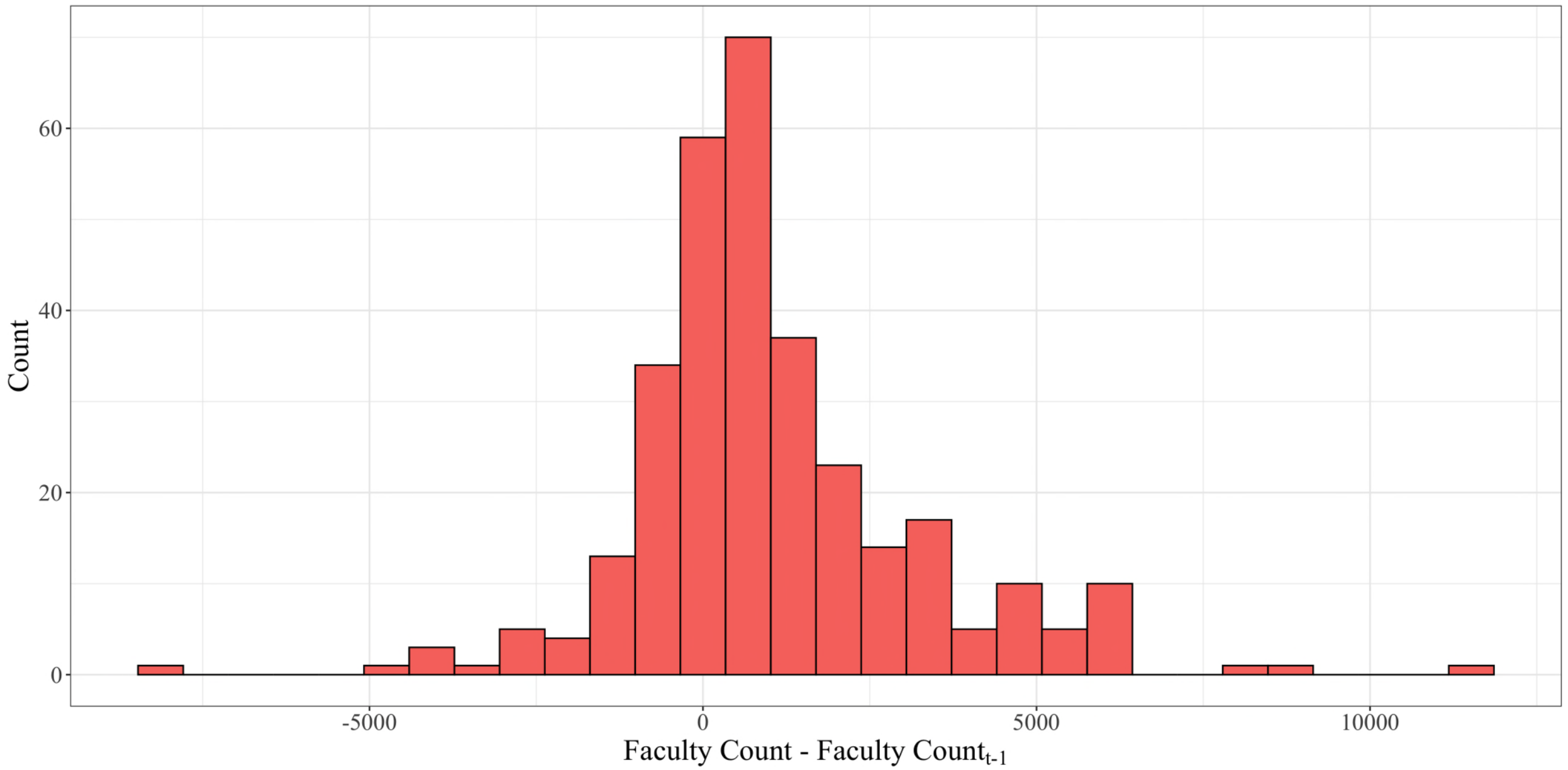


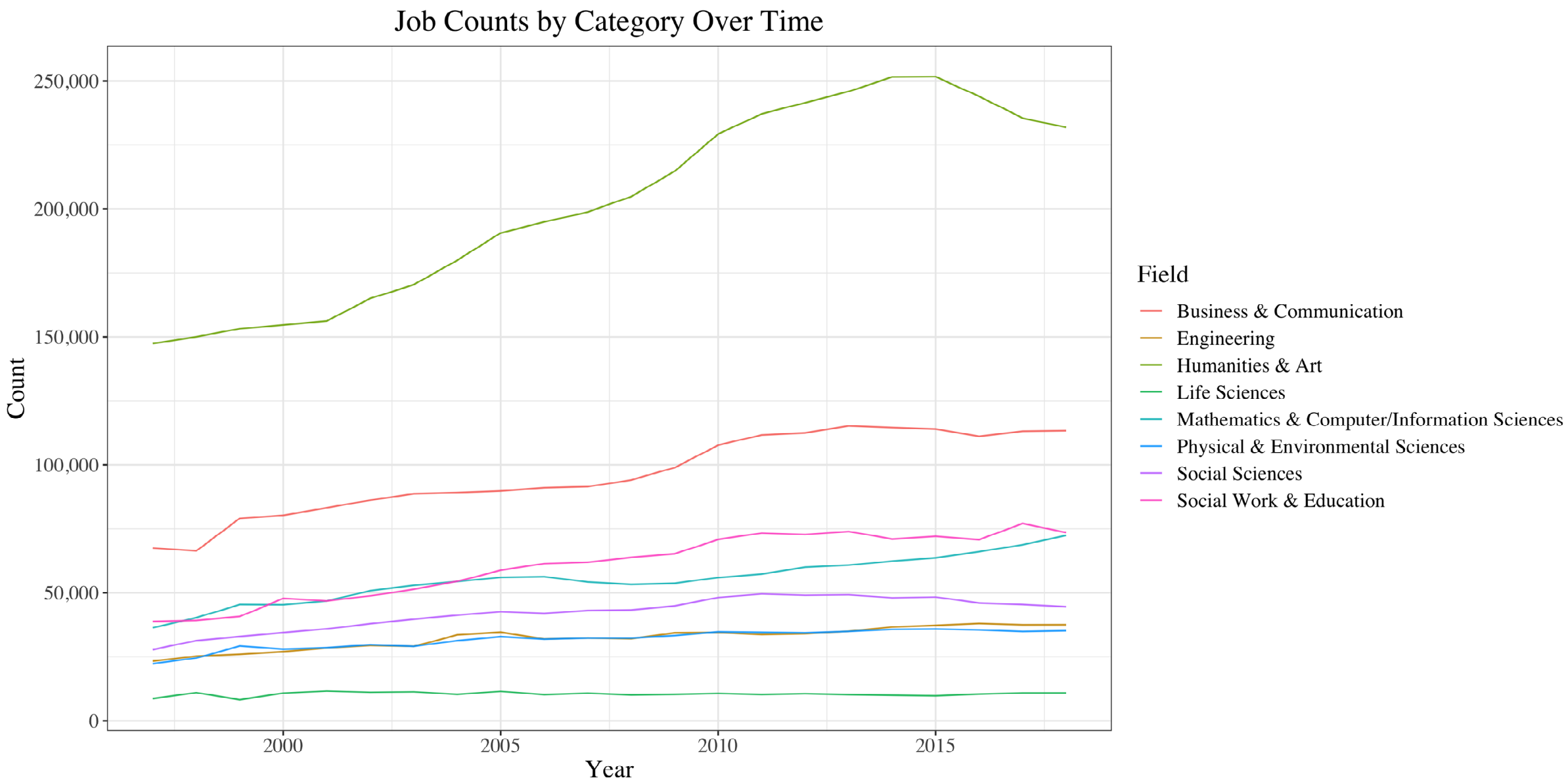

Average Department-Level Faculty Across Disciplines
Average Number of Faculty
25.0
22.5
20.0
17.5
2010
2012
2014
2016
2018
Year
Arts
Engineering and Computational Sciences
Humanities
Medical Sciences
Natural Sciences
Physical Sciences
Social Sciences

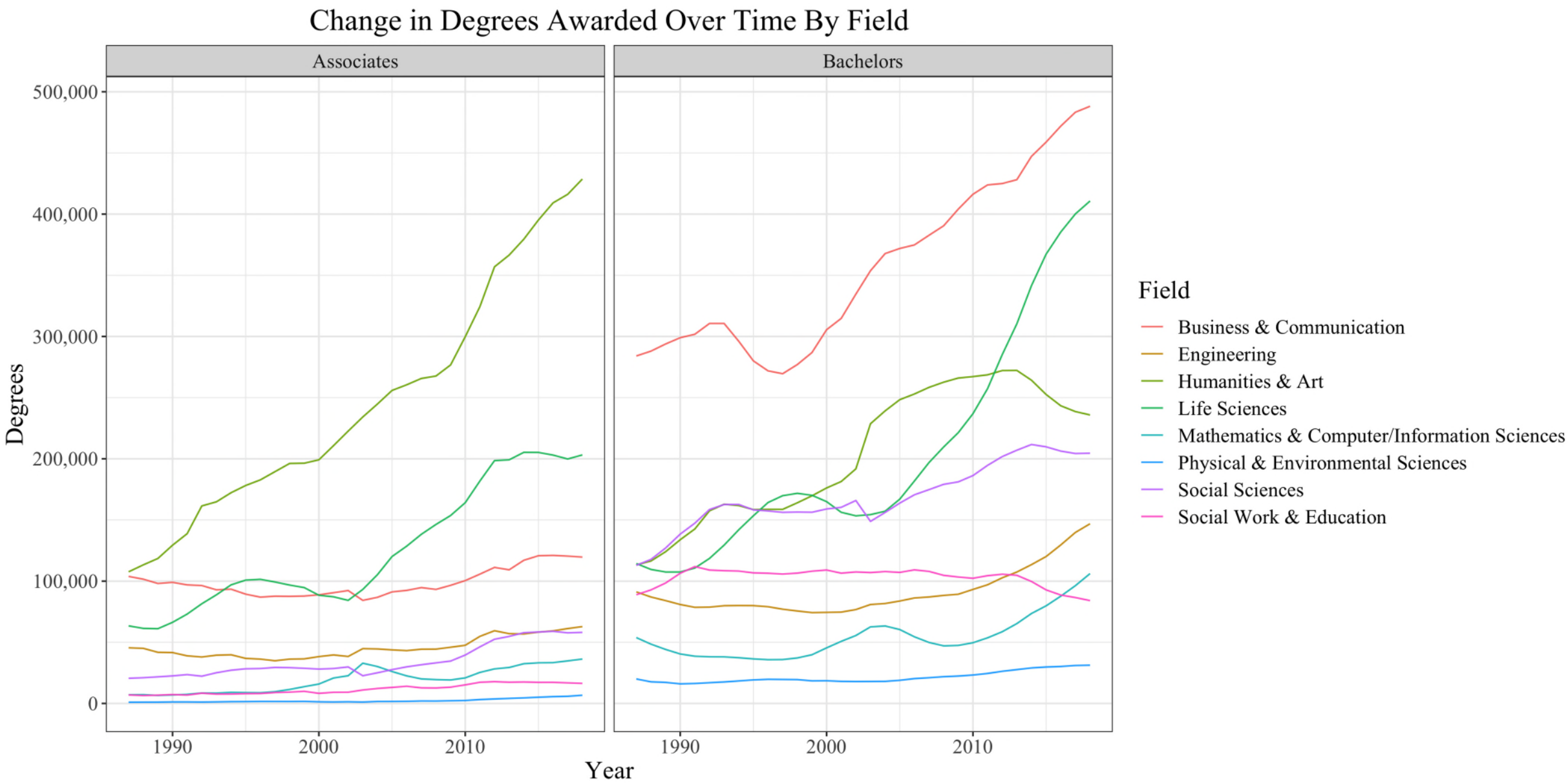

Average Department-Level Articles Across Disciplines
Average Number of Articles
0
20
40
60
80
2010
2012
2014
2016
2018
Year
Arts
Engineering and Computational Sciences
Humanities
Medical Sciences
Natural Sciences
Physical Sciences
Social Sciences

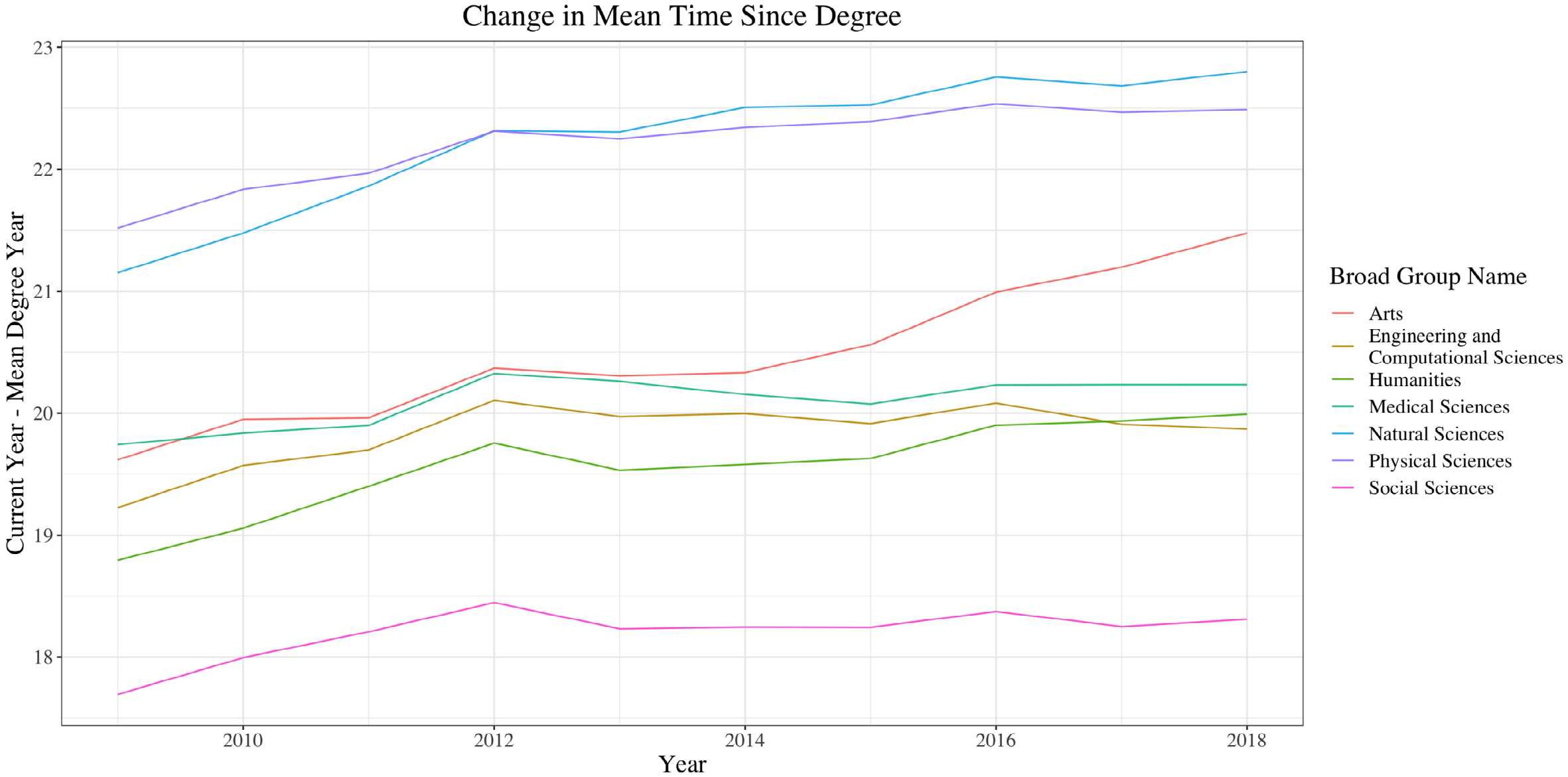

Average Department-Level Grants Across Disciplines
Average Number of Grants
20
15
10
5
0
2010
2012
2014
2016
2018
Year
Arts
Engineering and Computational Sciences
Humanities
Medical Sciences
Natural Sciences
Physical Sciences
Social Sciences

Persistence of Faculty in Fields, BLS Data




Job Counts by Category Over Time
250,000
200,000
150,000
100,000
50,000
0
Count
2000
2005
2010
2015
Year
Field
Business & Communication
Engineering
Humanities & Art
Life Sciences
Mathematics & Computer/Information Sciences
Physical & Environmental Sciences
Social Sciences
Social Work & Education


Change in Degrees Awarded Over Time By Field
Associates
Bachelors
500,000
400,000
300,000
200,000
100,000
0
Degrees
1990
2000
2010
Year
Field
Business & Communication
Engineering
Humanities & Art
Life Sciences
Mathematics & Computer/Information Sciences
Physical & Environmental Sciences
Social Sciences
Social Work & Education


Change in Mean Time Since Degree
Current Year - Mean Degree Year
23
22
21
20
19
18
2010
2012
2014
2016
2018
Year
Broad Group Name
Arts
Engineering and Computational Sciences
Humanities
Medical Sciences
Natural Sciences
Physical Sciences
Social Sciences

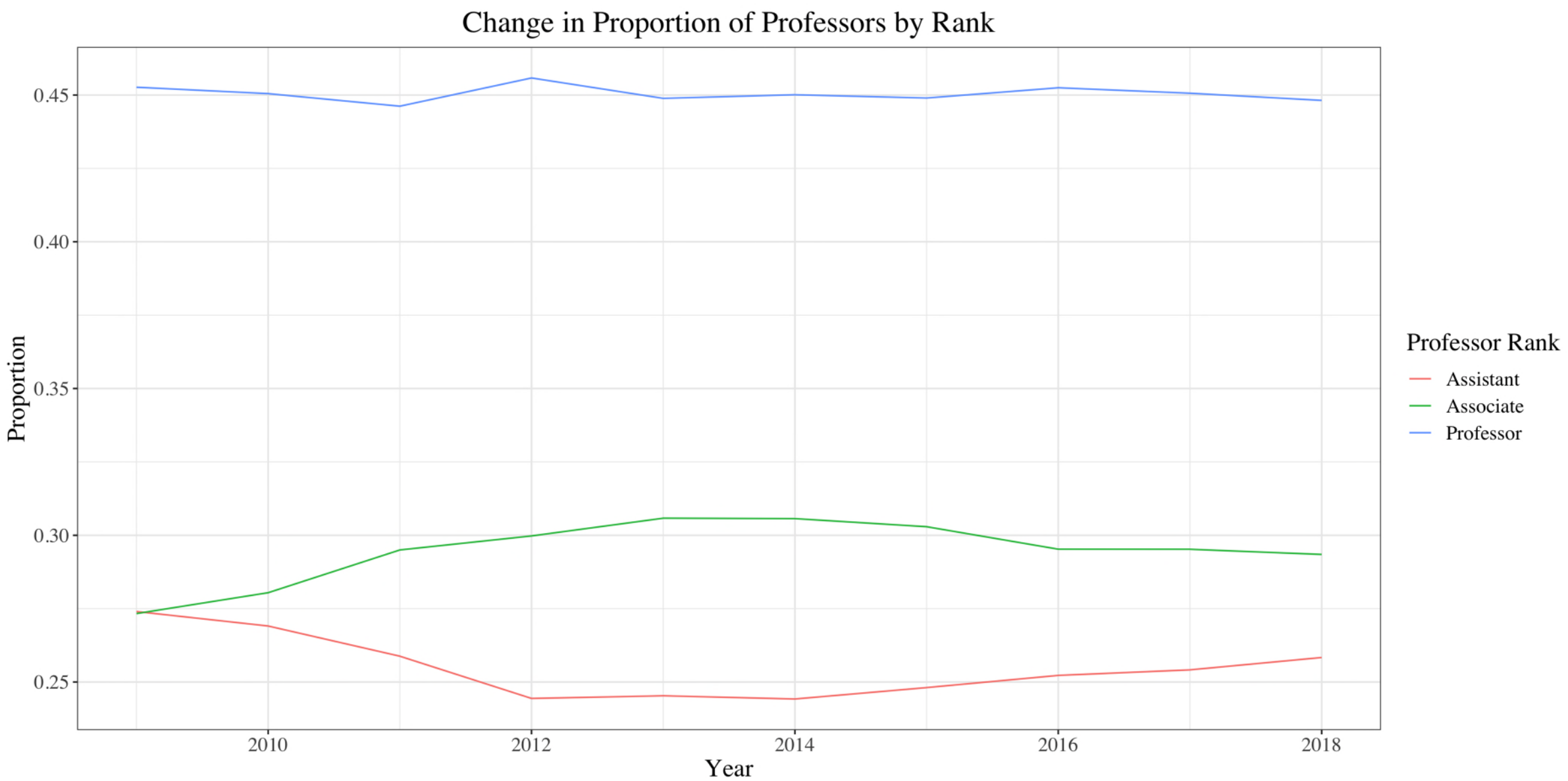

Change in Proportion of Professors by Rank
Proportion
0.45
0.40
0.35
0.30
0.25
2010
2012
2014
2016
2018
Year
Professor Rank
Assistant
Associate
Professor

Table 2: Determinants of Faculty Counts in Departments (Discipline-Year Effects)

	(5) Faculty Count	(6) Faculty Count	(7) Faculty Count	(8) Faculty Count
Faculty Count$_{t-2}$	0.904***	0.906***	0.903***	0.904***
	(144.33)	(151.01)	(137.45)	(141.24)
Articles$_{t-2}$	0.0110***	0.00853***	0.0112***	0.00989***
	(6.05)	(4.62)	(5.23)	(4.37)
Books$_{t-2}$	0.108***	0.111***	0.105***	0.109***
	(5.34)	(5.43)	(5.13)	(5.22)
Grant Dollars$_{t-2}$	-4.79e-08**		-4.57e-08**	
	(-2.50)		(-2.33)	
Grants$_{t-2}$		-0.00846		-0.00670
		(-1.17)		(-0.93)
Citations$_{t-2}$			-0.0000101	-0.0000405
			(-0.36)	(-1.44)
Constant	0.767**	0.760**	0.452	0.455
	(1.99)	(1.98)	(1.01)	(1.01)
Observations	98067	98067	90734	90734

t statistics in parentheses

* p<0.10, ** p<0.05, *** p<.01

Discipline-Year Fixed Effects, SEs Clustered on University-Departments

Predicted Departmental Faculty Across Article Publications

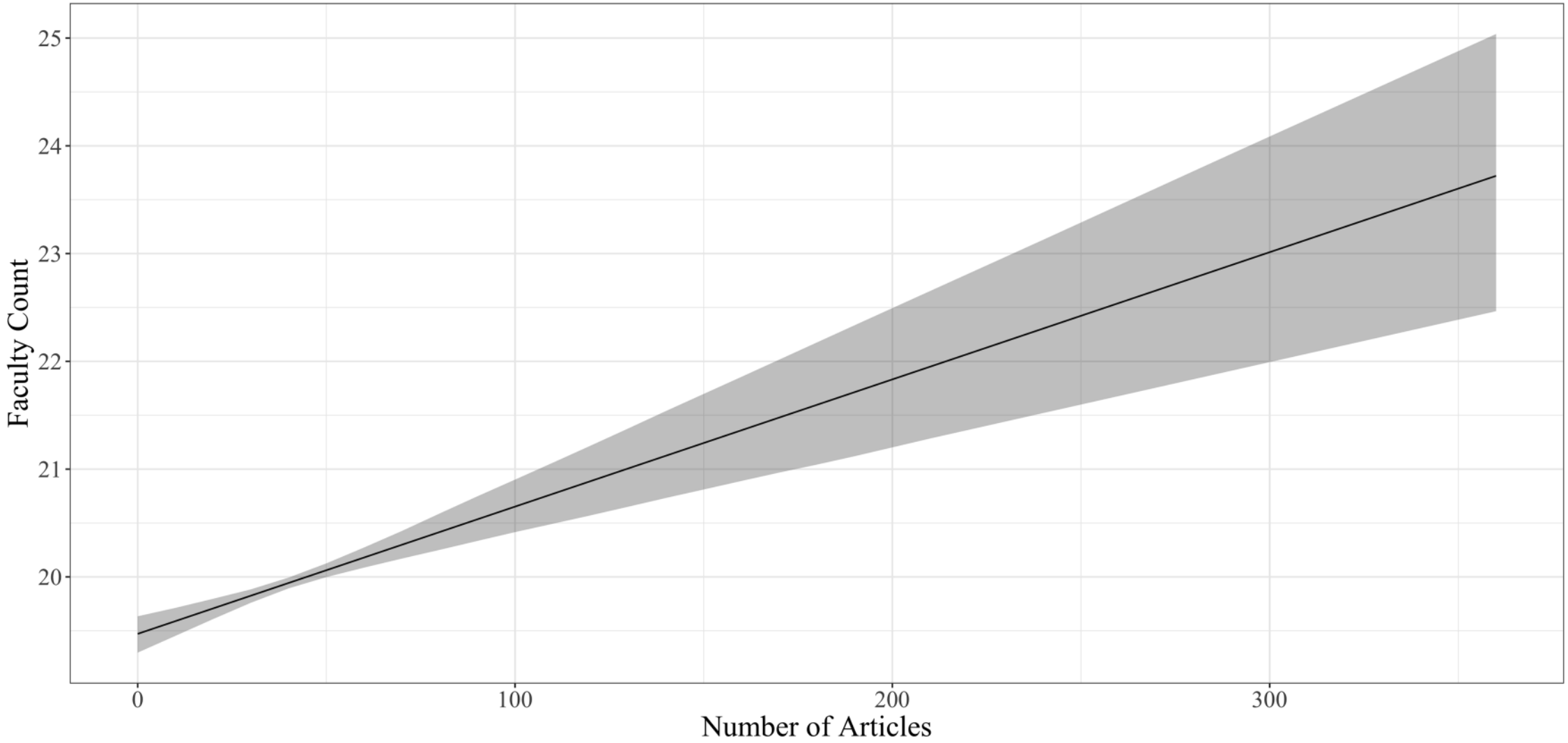


Table 3: Determinants of Disciplinary Faculty Counts Nationwide, BLS Data

	(9) Faculty Count (BLS) (Year Effects)	(10) Faculty Count (BLS) (Year & Field Effects)
Faculty Count (BLS)$_{t-2}$	1.053***	0.809***
	(90.91)	(8.75)
Associate Degrees$_{t-2}$	-0.0162***	-0.0686**
	(-3.32)	(-2.86)
Bachelor's Degrees$_{t-2}$	0.000763	0.0483
	(0.31)	(1.54)
R&D Expenditures$_{t-2}$	-0.0000171	-0.0000823
	(-0.87)	(-0.85)
Constant	2109.2	7163.7
	(1.48)	(0.63)
Observations	198	198

t statistics in parentheses

* p<0.10, ** p<0.05, *** p<.01

SEs Clustered on Field

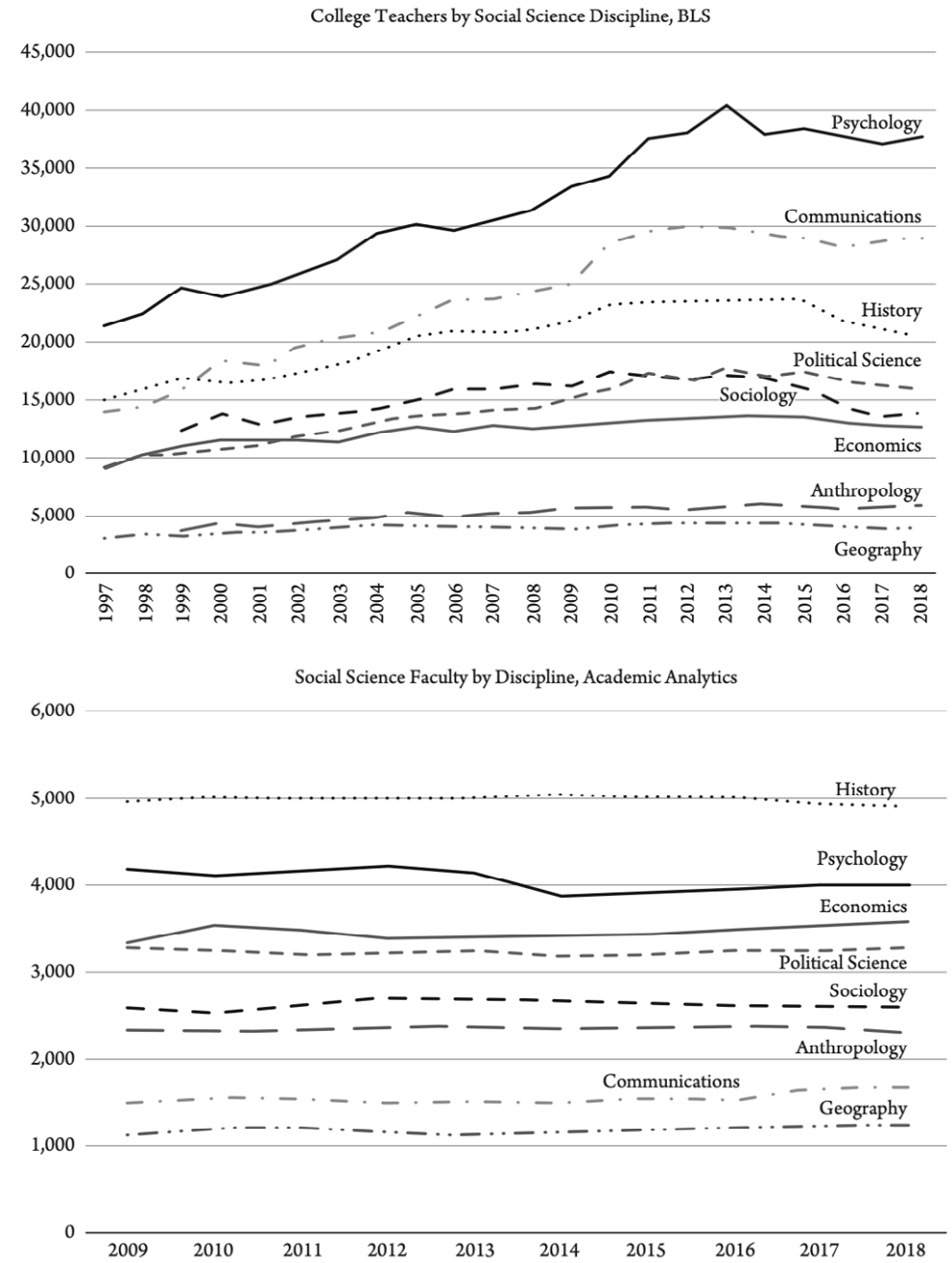
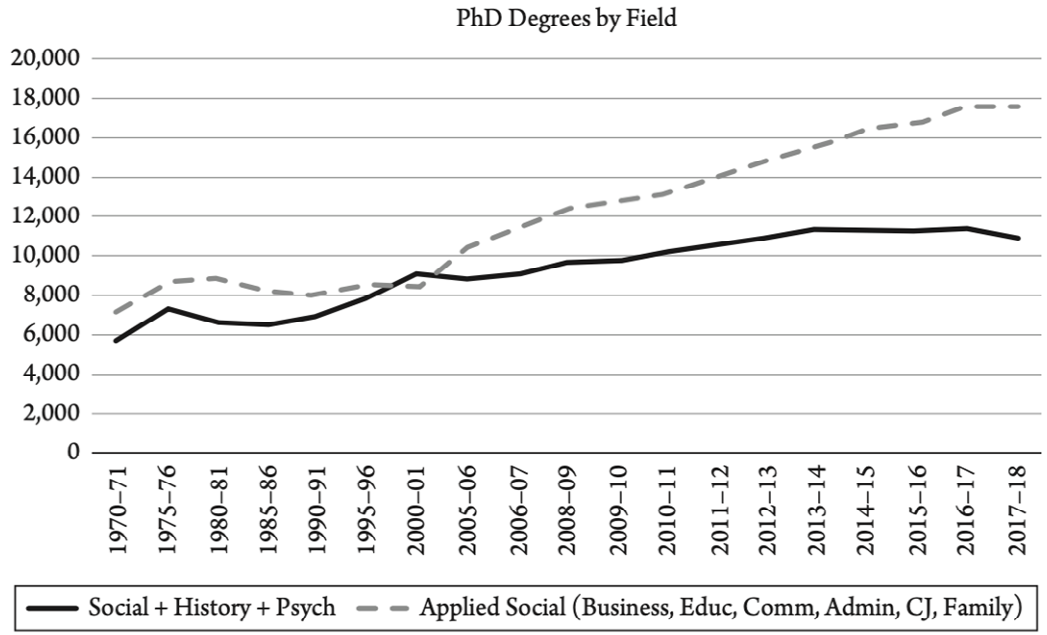


Figure 5.3 Faculty by Social Science Discipline. Data from the Bureau of Labor Statistics (*top*) and Academic Analytics (*bottom*).



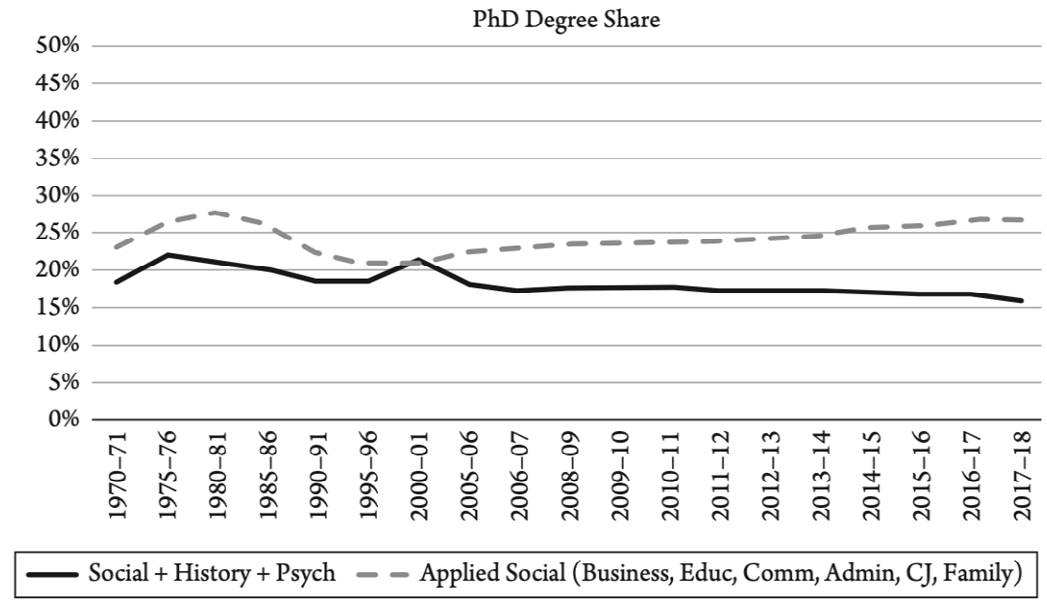


Figure 5.2 Doctoral Degrees Awarded in Social Science Fields. Data from National Center for Education Statistics, Table 324.10; aggregated by author.

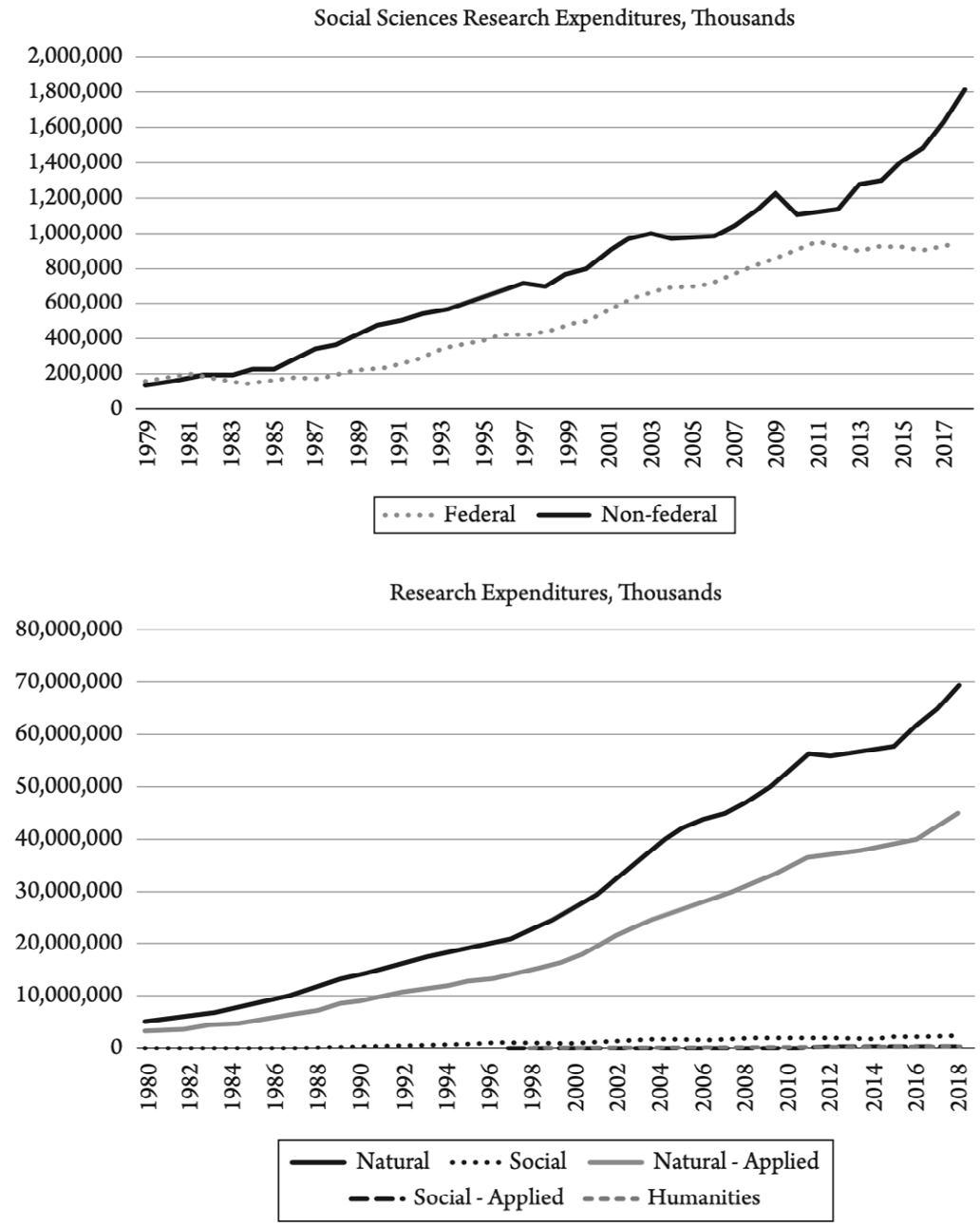


Figure 5.4 University Research Expenditures, Compared. Data from National Science Foundation, Higher Education Research and Development Survey.