How to Identify Colleges At Risk of Closing

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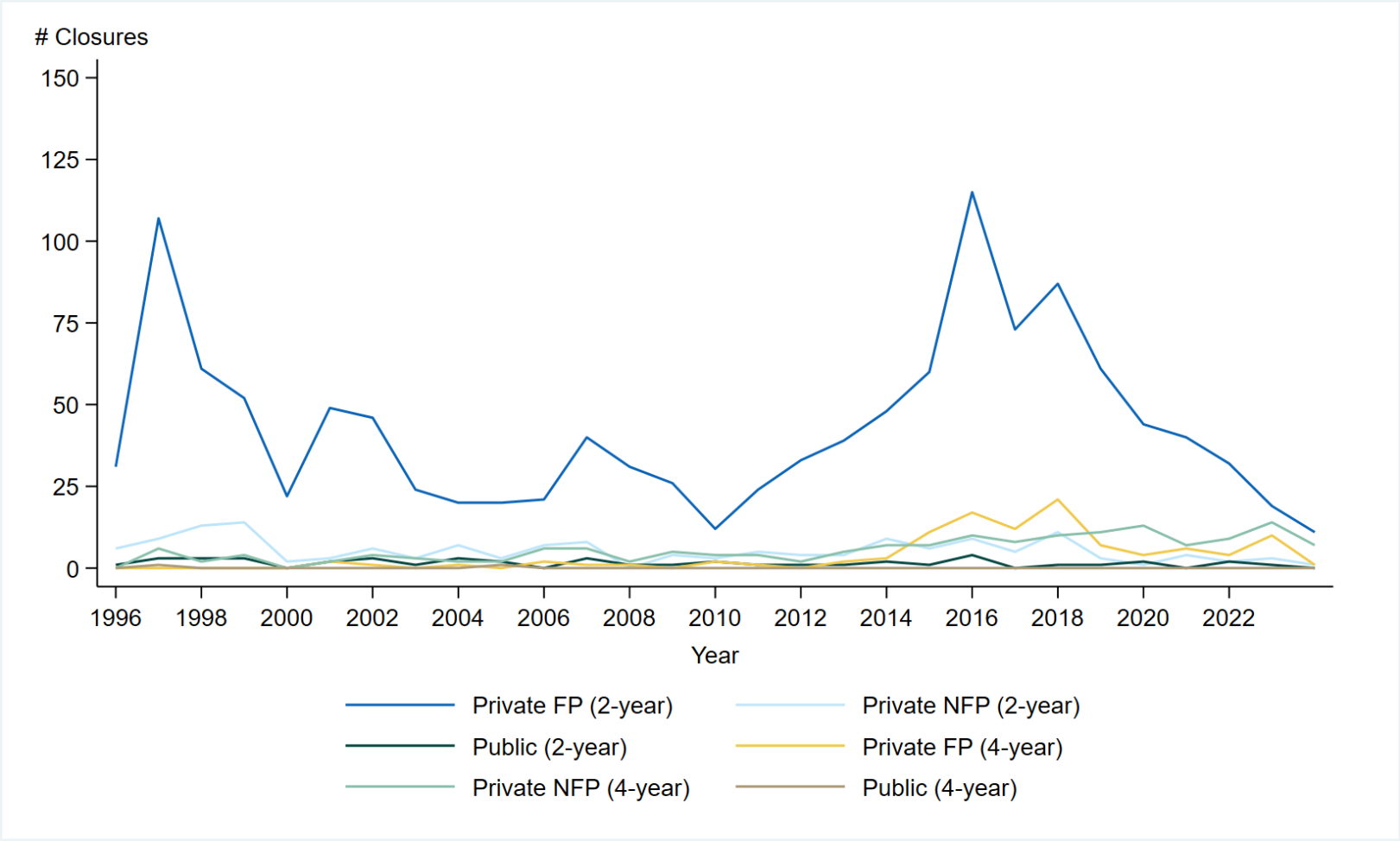
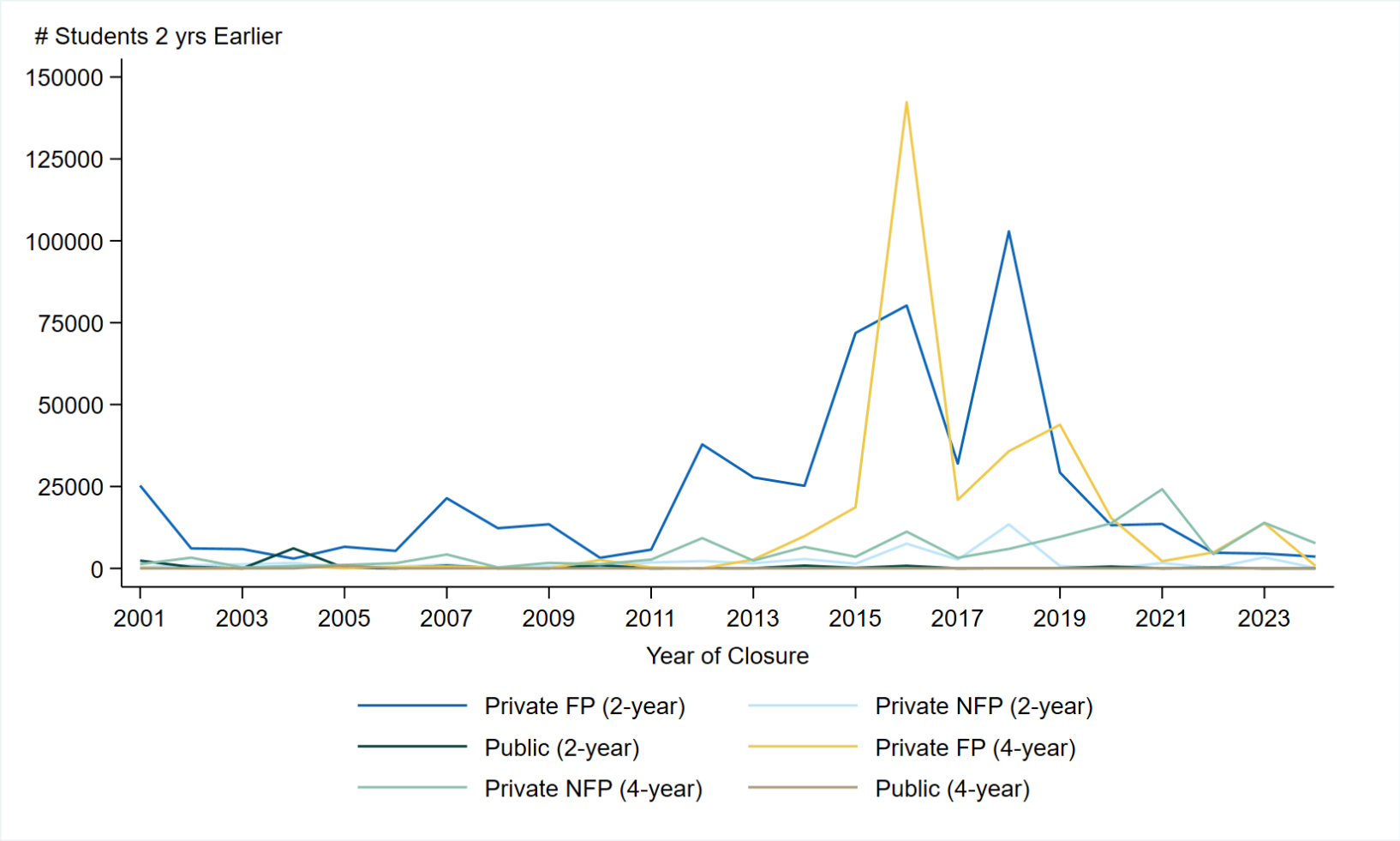
Number of closures by sector and year, 1996-2023



Number of students affected by closures



Pressures facing higher education

- Enrollment
- Rising operating costs alongside revenue challenges
- Uncertain policy environment

Enrollment challenges

- Don’t just think about the demographic cliff!
- Three main variables at play:
  - Number of high school graduates
  - Collegegoing rate of high school graduates
  - Enrollment of nontraditional students
- What can colleges control?

Rising costs, challenging revenues

- Higher ed operating costs typically rise faster than inflation
  - Benefits, facilities maintenance, and relative inability to use technology for efficiency (Baumol's cost disease)
- Tuition discounting has become a bigger issue, especially at private colleges
- Lack of market power further weakens ability to increase revenue

Uncertain policy environment

- Research grants not a concern for the most struggling colleges
- Will there be a recession?
- What will happen with international student enrollment?
- Will the financial aid system function?
- Will there be a Department of Education?

What can regulators do?

- Difficult to prevent closures
- Goal is to have them be as smooth as possible
  - Ex: Cabrini vs. University of the Arts
- Need to identify financial and non-financial factors associated with closures
- Ideally, pushing the work into markers of financial distress

My work on this topic

- Scholarly research on factors predicting closure
  - Philly Fed working paper with Federal Reserve colleagues
- Public-facing work
  - Series of pieces in the Chronicle of Higher Education
- Advising state policymakers and accreditors

The fancy models

- Took a kitchen sink approach gathering IPEDS, FSA, and other data to predict closure within three years
- Used machine learning models and regressions accounting for missing data (there's a lot!)
- Significantly improved accuracy of models compared to standard regressions

The fancy models

XGBoost (All Controls)

Covariate	Gain
L2 FRC Score	4.0%
L2 Enroll % change	2.4%
L2 Total EAP % change	2.1%
L3 Enroll % change	2.0%
L2 Revenue % change	1.9%
L4 Revenue % change	1.8%
PNFP 4yr	1.8%
L2 Staff Total	1.7%
L3 Revenue % change	1.6%
L2 EAP % Instruction	1.6%
L2 Salaries % Staff	1.6%
L2 OP Margin	1.5%
L2 Log Unrestricted Assets	1.5%
L3 FRC Score	1.3%
L5 Revenue % GGC	1.2%
L2 DCOH	1.1%
L2 Revenue % Tuition	1.1%
L4 Expenses % Instruction	1.1%
L2 Expenses % Instruction	1.1%

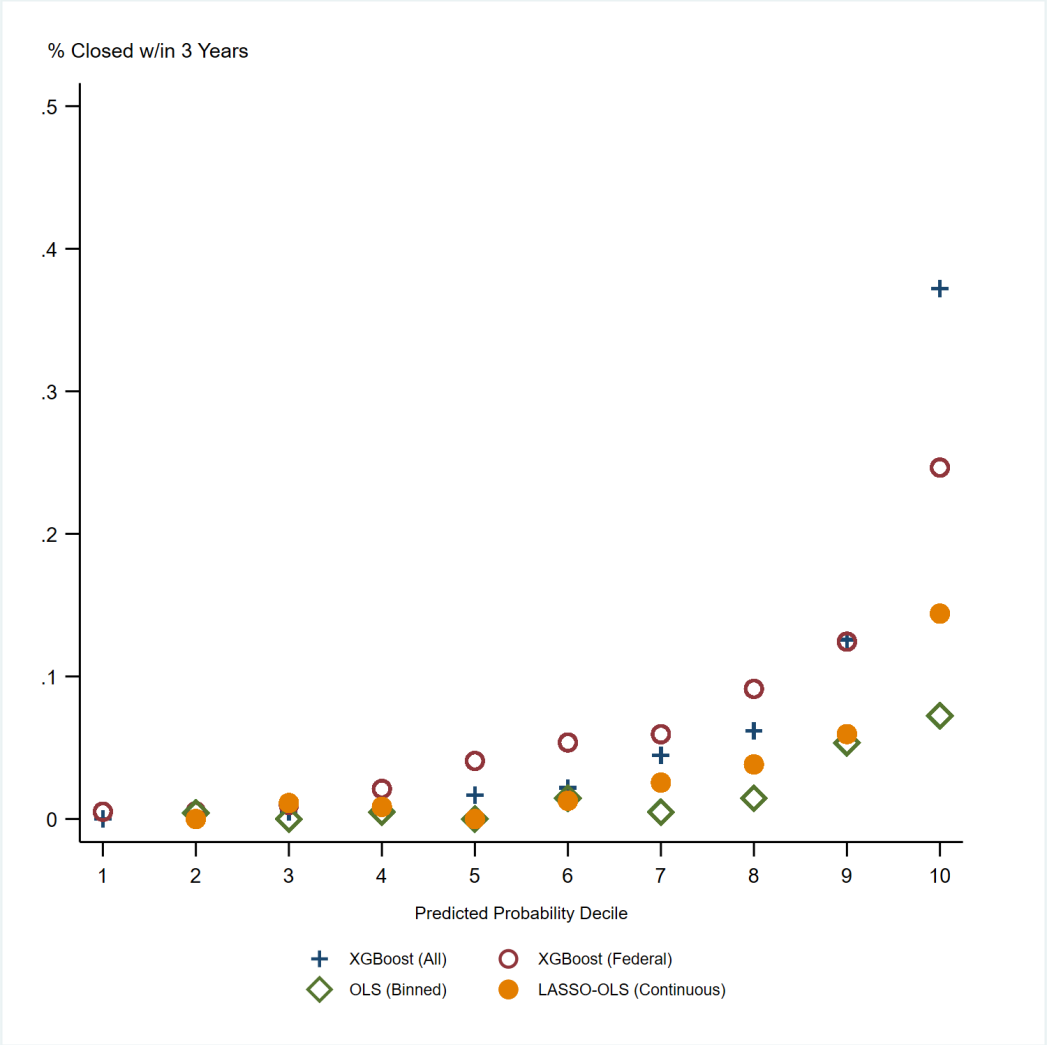
XGBoost (Continuous)

Covariate	Gain
L3 Enroll % change	4.0%
L2 OP Margin	4.0%
L2 Enroll % change	3.9%
L2 Total EAP % change	3.9%
L2 EAP % Instruction	3.8%
L2 Revenue % change	3.6%
L3 Revenue % change	3.3%
PNFP 4yr	2.9%
L2 Expenses % Instruction	2.7%
L2 EAP % ft	2.6%
L3 OP Margin	2.6%
L2 Revenue % Tuition	2.5%
L3 Expenses % Instruction	2.4%
L2 Log Unrestricted Assets	2.4%
L3 Revenue % Tuition	2.4%
L3 Total EAP % change	2.3%
L3 EAP % Instruction	2.3%
L2 Log Enroll 12mo	2.0%
L3 Log expenses	2.0%

XGBoost (Binned)

Covariate	Gain
L2 Enroll % change 1stQ	3.2%
L3 Revenue % GGC 1stQ	2.6%
L3 Enroll % change 1stQ	2.5%
L2 Revenue % GGC 1stQ	2.1%
L2 Salaries % Staff 1stQ	2.0%
L2 DCOH 3rdQ	2.0%
L2 Total EAP % change 1stQ	1.9%
L3 Revenue % change 1stQ	1.8%
L2 Revenue % change 1stQ	1.7%
L2 Expenses % Interest 1stQ	1.4%
L3 Total EAP % change 1stQ	1.4%
L2 Log Unrestricted Assets 4th	1.4%
L3 OP Margin 3rdQ	1.3%
L2 DCOH 1stQ	1.2%
L3 EAP % ft 1stQ	1.1%
L2 Debt to Assets 1stQ	1.1%
L2 OP Margin 1stQ	1.1%
L2 Revenue % Tuition 4thQ	1.0%
L2 EAP % ft 1stQ	1.0%

The fancy models



Ok…now what?

- Fancy models work great with lots of resources
- Not ideal for authorizing agencies with limited staff
- Can we identify colleges that are at potential risk with a few simple measures?
  - Accuracy may not be quite as good, but can start asking important questions

Factor 1: Consistently losing money

- Occasional losses are common, especially for colleges with some endowment funds
- Year-over-year losses generally mean that net assets are declining
- Watch out for issues regarding cash on hand

Factor 2: Declining enrollment

- Net tuition revenue is the key, but enrollment is a proxy that is available in near real time
- Are positions/programs being cut when enrollment keeps falling?
- What happens to facilities?

Factor 3: Declining endowments

- Pay close attention to endowment spending rate—used for financial aid or general expenses?
  - Anything over 5% can be a red flag
- Restricted vs. unrestricted funds
- BUT…it may be worthwhile for a college to use its endowment for one last hurrah to change its trajectory

Other key factors

- Frequent leadership turnover/excessive use of consultants
- Accreditation sanctions
- Sudden federal restrictions
- Missed bond payments (or consistently refinancing)

A note on cuts

- Sizable program cuts can be a good or bad thing for financial viability
  - Good thing: Done in advance as a part of a strategic process
  - Bad thing: Last-ditch effort to avoid closure
- Context matters…try to examine in light of other information

Tips for quickly examining colleges

- Flag colleges with consistent enrollment declines and financial losses
- Look at the balance sheet…is there a runway?
- Cash on hand is a focus
- Be willing to ask tough questions of leadership

Tips for quickly examining colleges

- Regular monitoring is key
- For the riskiest colleges, ask about enrollment and cash on hand quarterly
- Other colleges need less frequent check-ins, unless there is a triggering event
- Think about teach-out and records agreements right now

Concluding remarks

- Bumpy road ahead for higher education
  - But I expect fewer colleges to close than people think
- Goal is to be able to give stakeholders as much notice as possible of closure
- Ethics of sounding the alarm potentially too early are complicated


Questions?
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Thank you!

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