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### Impact of Changes in State Merit-Aid Programs on College Attendance

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# Impact of Changes in Merit-aid Program on College Attendance

Nabaneeta Biswas, Poulomi Dasgupta

# Research Question

- ▶ Did West Virginia's PROMISE scholarship increase college enrollment in the state?
- ▶ Did the changes to the scholarship after its inception impact college enrollment?

# Background

- ▶ WV was a late entrant into the merit-aid scene in 2002
- ▶ Unique demographic features of WV
  - ▶ Low rates of college attainment (8-10% points lower than the national average)
  - ▶ High poverty rates (4-5% points above national average)
  - ▶ Low wage premium for a college education (\$8,000 - \$10,000 lower than the national average)
  - ▶ High rates of net out-migration

# Background

- ▶ PROMISE covered full tuition at eligible institutions unlike most merit aid programs
  - ▶ Others exceptions are those in GA, LA, MA and NM
- ▶ PROMISE underwent revisions in its eligibility criteria a few years after its introduction to control costs

# Background

- ▶ Between 1990 and 2010 a total of 25 states adopted merit aid programs
- ▶ Merit-aid programs increase college enrollment [Dynarski \(2000, 2004\)](#), [Cornwell et al. \(2006\)](#), [Goodman \(2008\)](#)
  - ▶ Subsidizes college education for the meritorious
  - ▶ Curbs brain drain

# About PROMISE

- ▶ Designed after successful merit aid programs like Georgia's HOPE scholarship
- ▶ Offered full tuition waiver at 2-year and 4-year public institutions in WV and equivalent amount at eligible private institutions within the state
- ▶ Eligibility based on SAT/ACT score and high-school GPA on core courses
- ▶ Covers up to 8 semesters and has an annual renewal criteria based on CGPA and credit accumulation

# About PROMISE

- ▶ More generous than other state scholarship like HEAPS or WVHEG
  - ▶ 50-60% of state funding on college grants go to PROMISE
  - ▶ Total state spending on PROMISE has increased steadily over the years
- ▶ Roughly 10,000 PROMISE beneficiaries each year, one third of which are new recipients
- ▶ Anecdotal evidence suggests a higher take-up of PROMISE among the financially affluent
  - ▶ 60-70% of PROMISE recipients belong to households with an annual income of \$30,000 or above
- ▶ 85% of PROMISE recipients enroll at public 4-year institutions in WV, bulk of them at MU and WVU



# About PROMISE

- ▶ PROMISE improves post-enrollment educational outcomes  
[Scott-Clayton \(2011\)](#)
  - ▶ On-time graduation, semester GPAs, credit accumulation
  - ▶ Post-graduation labor-market outcomes and later-life financial standing
- ▶ Effects of PROMISE on college-going rate is unknown
- ▶ PROMISE eligibility was modified in 2004, the ACT sub-score was raised from 19-20
- ▶ A bigger change in 2006 followed raising the ACT cutoff for the scholarship from 21 to 22

# Rationale for the current study

- ▶ What PROMISE adds to the state's higher education scene other than post-enrollment academic success
  - ▶ Debate over need-based and merit-based financial aid given state demographics
- ▶ What the modifications to PROMISE entail for college aspirants
  - ▶ Stringent criteria restricts access, attracts only the academic elite, make out-of-state institutions more attractive
  - ▶ Delays in the dissemination of PROMISE info - adjustments to the policy updates

# Contributions

- ▶ Extend the literature on enrollment effects of merit-aid policy
- ▶ First study to investigate the impact of eligibility changes in merit-aid
  - ▶ Evolution of the enrollment effect
- ▶ Application of Synthetic Control Methods to the study of merit aid

# Data and variables

- ▶ Integrated Post-secondary Education Data Systems (IPEDS)
  - ▶ First-time freshman enrollment (1992-2010) - full-time and part-time enrollment
  - ▶ Enrollment with migration info (1992-2010) - instate and out-of-state
  - ▶ College attendance costs
- ▶ Common Core of Data (CCD) and Private School Universe Survey
  - ▶ High school completions by state and year
- ▶ U.S. Census Bureau, Bureau of Labor Statistics
  - ▶ Annual population estimates, unemployment rate, manufacturing wage, median household income

# Model

Baseline empirical model:

$$fracenroll_{st} = \beta treatpost_{st} + \gamma post_s + X_{st}\omega + \alpha_s + \pi_t + \varepsilon_{ist}$$

- ▶  $fracenroll$  : fraction of 15-24 year old attending college
- ▶  $\beta$  : treatment effect
- ▶  $X$ : covariates
- ▶  $\alpha_s$ : State FE,  $\pi_t$ : Year FE

## Analysis sample

Table: Mean instate enrollment in WV and control states

	WV	Control States
Before PROMISE	0.05 (0.004)	0.05 (.011)
After PROMISE	0.06 (0.004)	0.05 (0.010)

Table: Covariates for WV and control states

	WV	Control States
Income share of tuition	.27	.23
High-school grad percent	.08	0.12
State unemployment rate	7.27	5.47
Avg. weekly wage	758.6	781.7
Median family income	30711.9	41672.57

# Results

Table: DID estimates for instate, full-time and part-time enrollment

	Instate	Instate	Full time	Part time
treatpost	0.0113*** (0.003)	0.010*** (0.002)	0.005*** (0.001)	0.005 (0.004)
State FE	x	x	x	x
Year FE	x	x	x	x
2-yr window		x	x	x
N	220	108	108	108

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

SE clustered at the state level for the DD

# Results

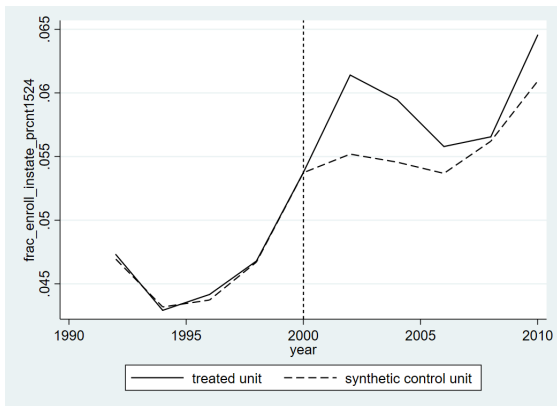
Table: Evolution of the enrollment effect of PROMISE

	Instate	Total
1992	-0.00618** (0.002)	-0.00514* (0.003)
1994	-0.00753*** (0.002)	-0.00619** (0.003)
1996	-0.00735*** (0.002)	-0.00835** (0.003)
1998	-0.00273 (0.002)	-0.00323 (0.003)
2000	0 (.)	0 (.)
2002	0.00641*** (0.001)	0.00748* (0.004)
2004	0.00758*** (0.002)	0.00841** (0.004)
2006	0.00687*** (0.002)	0.0103** (0.004)
2008	0.00618** (0.003)	0.0170*** (0.005)
2010	0.00920*** (0.002)	0.0289*** (0.004)



# Results

- ▶ Validity of DID rests on the parallel trends assumption
- ▶ Use Synthetic Control Method to match pre-treatment outcome trends and include the estimated weights in DID regression



# Results

Figure: College enrollments using simple DID

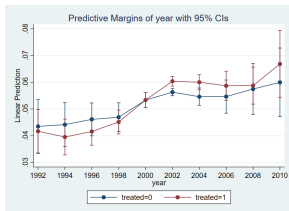
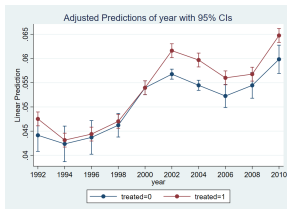


Figure: College enrollments using DID with SCM weights



# Conclusion

- ▶ PROMISE had a statistically significant impact on college enrollment in the state
- ▶ The enrollment effect accumulates over time
- ▶ Scholarship eligibility upgrades have a transient effect on enrollments
  - ▶ Points to an expectation adjustment mechanism channel