

Comment on “Impact of the Clean Air Act on Stationary Source Emissions in the 1970s”

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RFF

Misclassification

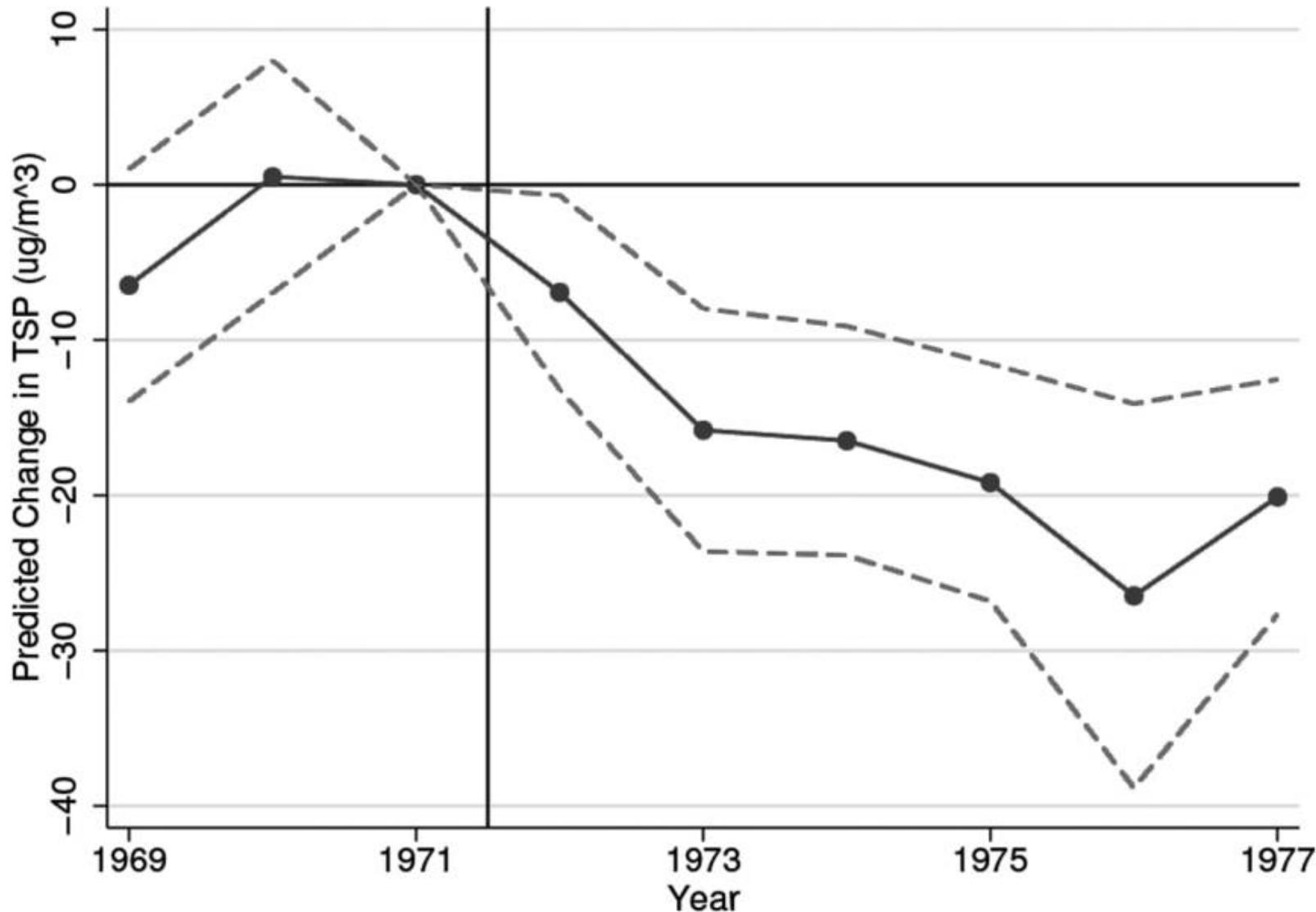
- The understanding in the literature over the last 2 decades or so has been that there are no historical records indicating NA status prior to 1977. As a result, the standard approach has identified NA areas by using TSP monitoring data from the early 1970s.
- In fact, though, there is an historical record--EPA designated NA in a 1972 FR notice. EPA designated NA for Air Quality Control Regions—generally, much larger areas comprising multiple counties.

Misclassification Among 148 Counties

Isen et al.'s Counties Total = 148	Attainment Status Based on EPA's 1972 FR Notice	
	13 Attainment	135 Non-attainment
51 Attainment	12	39
97 Non-attainment	1	96

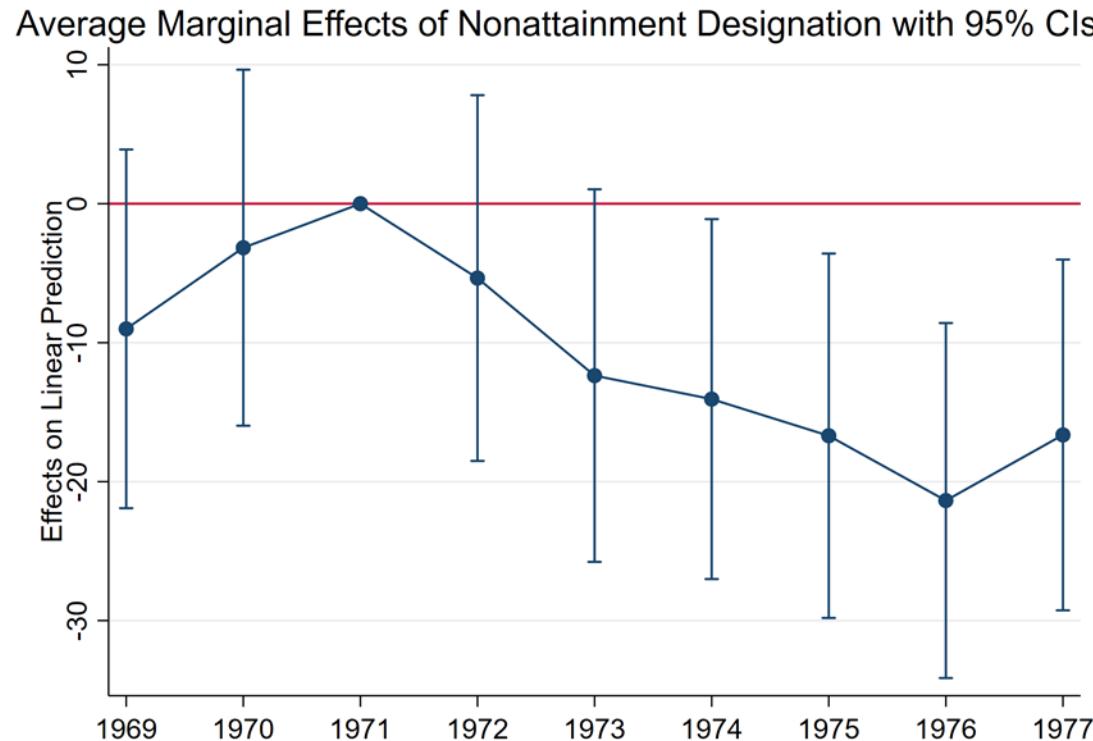
NB: Only 12 counties of the 148 studied by Isen et al. were actually “attainment” counties. The classification by Isen et al., is correct for $(12+96)/148 = 73\%$ of counties.

Isen et al, Figure 1: Identification

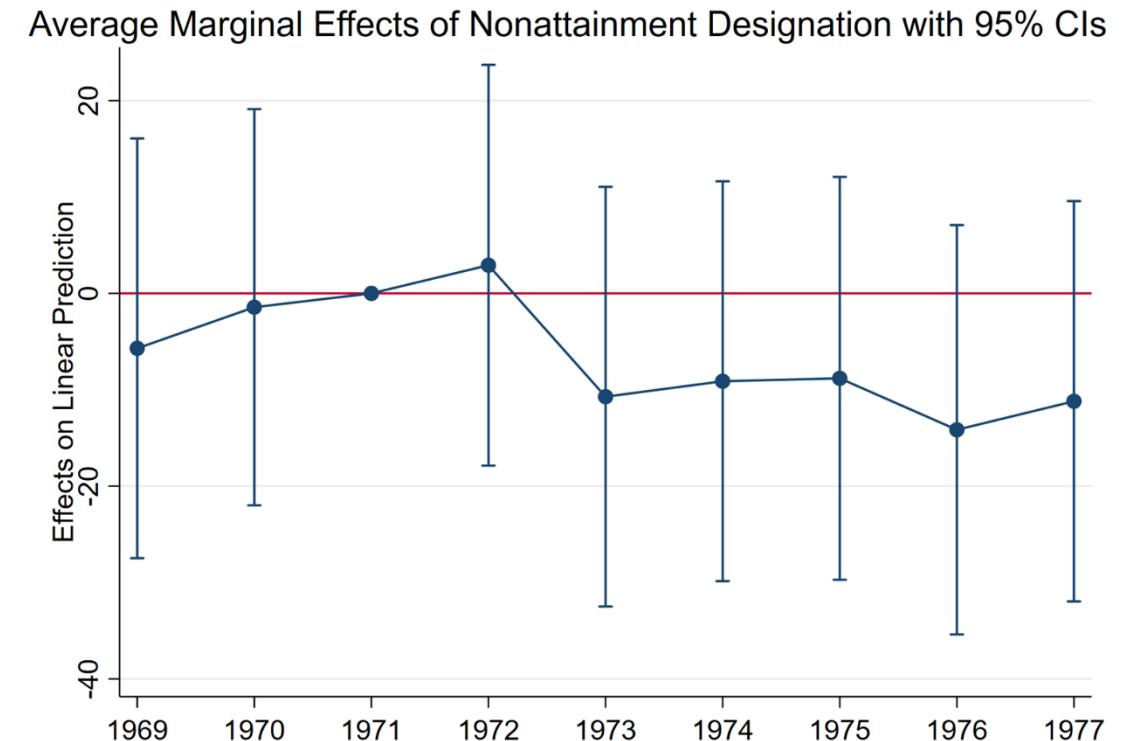


Replication of Isen et al, Figure 1 without LEHD data, TSP

- Isen et al.'s NA designation



- EPA's actual NA designation



Replication per EPA NA Designation

- Using data from Walker, we were able to generate the Isen et al. Figure 1.
- We then produced a similar figure using EPAs 1972 attainment/NA designations presented here.
- Note that there is drop in TSP in NA areas in 1972-73 relative to the attainment areas, but little further change in subsequent years.
- Suggests the sensitivity to decision on the identification of attainment/NA.

Possible Steps to Improve Classification

- Some of these "misclassified" counties—maybe many—may have been low priority for regulatory action.
 - That is, they may have been on the fringe of a NA AQCR
- One of our challenges will be getting a better handle on the identification of low priority counties—the "attainment" counties.
- Some possibilities:
 - Examine monitoring data for multiple years (eg, 1970-1972) to identify counties with a robust record of attainment
 - Use EPAs Tier II classification to identify lower priority AQCRs identified as NA in EPAs 1972

Replication of Isen et al, Table A3 with lead

VARIABLES	(1) lead	(2) lead	(3) lead	(4) lead
nonpost	-4.536*** (0.913)	-4.494*** (0.925)	-3.613*** (0.868)	-2.853*** (0.812)
Observations	882	882	882	882
R-squared	0.244	0.278	0.389	0.498
Number of county_fips	147	147	147	147
Weather Controls	No	Yes	Yes	Yes
Nativity Basic	No	No	Yes	Yes
Nativity Unrestricted	No	No	No	Yes
r2_a	-0.0936	-0.0744	0.0755	0.204

Standard errors in parentheses; SF excluded as an outlier.

*** p<0.01, ** p<0.05, * p<0.1