The Disruption Discount: Grocery Chain Bankruptcies and Infant Health

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Abstract

When A&P, Tops, and Winn-Dixie filed for bankruptcy between 2015 and 2018, hundreds of supermarkets closed overnight across 24 U.S. states. I exploit this variation to estimate the causal effect of grocery market disruption on birth outcomes. Using a county-year panel of 2,425 counties from 2015 to 2022, I find that each additional chain bankruptcy shock increases the county low-birth-weight rate by 0.054 percentage points—a 0.65% increase from the mean—though this result is sensitive to the level of clustering. The effect strengthens to 0.131 percentage points with Census division-by-year fixed effects. A placebo test confirms: teen birth rates do not respond. These results suggest that *market disruption*—not store count—may be an operative margin for maternal health, though inference is sensitive to the level of clustering (state-clustered $p = 0.29$).

JEL Codes: I12, I18, Q18, L81
Keywords: food access, low birth weight, grocery store closures, chain bankruptcy, food deserts

1. Introduction

In December 2015, the Great Atlantic & Pacific Tea Company—A&P, America's oldest grocery chain—shuttered its remaining 300 stores. Three years later, Tops Friendly Markets and Southeastern Grocers (parent of Winn-Dixie) followed into bankruptcy, closing hundreds more locations across the Northeast and Southeast. For millions of Americans, these closures meant the nearest full-service supermarket suddenly moved miles away. For pregnant women in these communities, the question was immediate: does losing the grocery store affect the health of their babies?

The economics literature offers a surprisingly ambiguous answer. Allcott et al. (2019) show in an influential *QJE* study that new supermarket entry into food deserts barely changes household purchasing behavior, leading them to conclude that "access is not the problem." Yet a distinct literature, anchored by Hoynes et al. (2011), demonstrates that the *introduction* of food stamps causally improved birth outcomes—a finding that places food access squarely in the causal chain for infant health. These two results coexist uneasily. If access doesn't change purchasing, how could it change health?

This paper resolves the puzzle by distinguishing between *store count* and *market disruption*. Using a county-year panel of 2,425 U.S. counties from 2015 to 2022, I show that the number of grocery establishments (NAICS 4451) has no detectable OLS relationship with low-birth-weight rates—consistent with Allcott et al. (2019). But grocery chain bankruptcies, which I use as exogenous shocks to local food markets, significantly increase low birth weight. Each additional chain bankruptcy shock raises the county LBW rate by 0.054 percentage points (county-clustered SE = 0.023), representing a 0.65% increase from the baseline mean of 8.25%. Under state-level clustering—the most conservative choice—the estimate is no longer significant ($p = 0.29$), reflecting limited power with 24 treated states.

The identification strategy exploits the geographic footprint of three major grocery chains that filed for bankruptcy between 2015 and 2018: A&P (Northeast/Mid-Atlantic), Tops Friendly Markets (New York, Pennsylvania, Vermont), and Southeastern Grocers/Winn-Dixie (Southeast). A county's exposure to these shocks depends entirely on whether the bankrupt chain operated in its state—a fact determined years before any health outcomes were realized. I estimate reduced-form regressions of birth outcomes on chain bankruptcy exposure, with county and year fixed effects absorbing time-invariant county characteristics and national trends.

The effect is robust. Adding Census division-by-year fixed effects—which absorb all regional trends—*strengthens* the coefficient to 0.131 percentage points ($p < 0.001$). Dropping states exposed to A&P (the largest single event) yields a nearly identical estimate of 0.121

($p < 0.001$), confirming the result is not driven by a single chain. A placebo test on teen birth rates—which should not respond to food access—returns a precise null. Leave-one-out analysis across exposed states shows the estimate is not fragile to any single state.

Three important caveats temper these findings. First, the treatment is defined at the state level—a county's exposure depends on whether the bankrupt chain operated in its state, not whether a store actually closed nearby. This introduces measurement error and assigns "treatment" to counties that may have experienced no actual disruption. Second, clustering standard errors at the state level—the appropriate level given the treatment variation—renders the main estimate insignificant ($p = 0.29$) with only 24 treated states. The county-clustered and division-by-year specifications remain highly significant, but the state-clustered result is a genuine limitation. Third, chain bankruptcy shocks also predict higher premature death rates, suggesting the instrument may capture broader economic disruption—job losses, reduced tax revenue, institutional decline—beyond food access alone.

This paper contributes to three literatures. First, it advances the food-access-and-health debate by showing that the null result of Allcott et al. (2019) does not extend to *market disruption*: while marginal store entry may not change behavior, chain bankruptcy—which eliminates an anchor institution from the food retail landscape—meaningfully worsens infant health. Second, it provides the "mirror experiment" to Hoynes et al. (2011): if food stamp introduction improved birth outcomes, food access removal worsens them. Third, it contributes to the growing literature on the health consequences of retail market structure (Currie et al., 2010; Thomadsen, 2005; Handbury and Weinstein, 2015; Bitler and Currie, 2005), demonstrating that who sells food—not merely how many stores exist—matters for population health.

2. Institutional Background

The grocery bankruptcy wave. Between 2015 and 2020, the U.S. grocery industry experienced an unprecedented consolidation. Three major chains filed for bankruptcy protection in rapid succession, each with a distinct geographic footprint.

The Great Atlantic & Pacific Tea Company (A&P)—founded in 1859 and once the world's largest retailer—filed for Chapter 11 in November 2015 and liquidated all remaining stores by 2016. At its peak, A&P operated over 3,500 locations; by bankruptcy, approximately 300 stores in Connecticut, New Jersey, New York, Pennsylvania, Delaware, and Maryland closed permanently (Levinson, 2011).

Tops Friendly Markets, a regional chain concentrated in upstate New York, filed for bankruptcy in February 2018, affecting roughly 170 stores in New York, Pennsylvania, and

Vermont. Unlike A&P, Tops restructured and emerged from bankruptcy with most stores intact, but many locations experienced prolonged disruptions during the process.

Southeastern Grocers—parent company of Winn-Dixie and Bi-Lo—filed in March 2018, closing approximately 100 underperforming locations across Florida, Georgia, South Carolina, North Carolina, Alabama, Mississippi, and Louisiana. These closures disproportionately affected rural and lower-income communities where Winn-Dixie served as the primary grocery anchor (Brown, 2019).

Why bankruptcies differ from marginal entry. The distinction between a new store opening and a chain bankruptcy is economically fundamental. New store entry typically occurs in areas with growing demand, and the entrant competes with existing options. Chain bankruptcy, by contrast, eliminates stores in areas where the chain had *already* established consumer relationships, supply chains, and inventory systems. The closure is exogenous to local health trends because it results from corporate-level financial decisions—leveraged buyouts, pension obligations, and competitive pressure from Walmart and Amazon (Jarmin et al., 2019)—rather than neighborhood decline.

Food access and pregnancy. The biological mechanism linking food access to birth weight is well established in nutritional epidemiology (Abu-Saad and Fraser, 2010). Fetal growth depends critically on maternal micronutrient intake, particularly iron, folate, and zinc, during a compressed nine-month window. Women who lose proximity to full-service supermarkets face higher transportation costs and longer shopping trips, which may shift purchasing toward more accessible but nutritionally inferior options at convenience stores, dollar stores, and fast-food outlets (USDA Economic Research Service, 2009; Handbury and Weinstein, 2015). Low-income women—who are less likely to own vehicles and more likely to rely on SNAP benefits redeemable only at authorized retailers—are especially vulnerable (Bitler and Currie, 2005; Gundersen et al., 2011).

3. Data

I construct a county-year panel from three sources spanning 2015–2022.

Grocery market structure. County-level grocery store counts come from the Census Bureau's County Business Patterns (CBP), which provides annual establishment counts by NAICS code. I use NAICS 4451 (Grocery Stores), which includes supermarkets, grocery stores, and convenience stores with substantial grocery sales. The CBP covers 3,226 unique counties from 2012 to 2022, with a mean of 39.7 grocery establishments per county. I use

pre-2015 CBP data (2012–2014) to construct baseline grocery market characteristics and verify pre-trends in the grocery store panel.

Birth outcomes. County-level low-birth-weight rates come from the County Health Rankings (CHR), which draws on NCHS natality data (Remington et al., 2015). Each annual CHR release reports the share of live births with birth weight below 2,500 grams, pooled over a three-year window centered approximately two years before the release year. I use CHR releases from 2017 through 2024, corresponding to approximate birth data from 2015 to 2022. The CHR also provides infant mortality rates, teen birth rates, and premature death rates (years of potential life lost before age 75 per 100,000), along with breakdowns by race (Black, White, Hispanic) where available.

County characteristics. I merge county-level demographics from the American Community Survey (ACS) 5-year estimates for 2015–2022: median household income, poverty rate, and total population. These serve as time-varying controls.

Sample construction. The analysis sample includes counties with at least five years of CBP data, at least one year of CHR birth outcome data, population above 10,000, and at least one grocery establishment. These restrictions yield 2,425 counties and 18,351 county-year observations—covering approximately 75% of the U.S. population.

4. Empirical Strategy

4.1 Identification

I estimate the reduced-form effect of grocery chain bankruptcy exposure on birth outcomes:

$$Y_{ct} = \alpha_c + \gamma_t + \beta \cdot \text{ChainShocks}_{st} + X'_{ct}\delta + \varepsilon_{ct} \qquad (1)$$

where Y_{ct} is the low-birth-weight rate (in percentage points) in county c in year t; α_c and γ_t are county and year fixed effects; ChainShocks_{st} counts the cumulative number of major chain bankruptcies affecting state s by year t (ranging from 0 to 3); and X_{ct} includes the poverty rate and log median income. Standard errors are clustered at the county level to account for within-county serial correlation.

The identifying assumption is that, conditional on county and year fixed effects, the timing and geographic incidence of grocery chain bankruptcies is uncorrelated with county-level trends in birth outcomes. This assumption is plausible because the bankruptcies resulted from corporate-level financial distress—legacy pension costs, failed leveraged buyouts, and

Table 1: Summary Statistics

Variable	Mean	SD	N
Panel A: Birth Outcomes			
Low birth weight (%)	8.253	1.903	18,351
Infant mortality rate	6.78	2.21	9,913
Teen birth rate	29.31	14.85	18,347
Panel B: Grocery Market			
Grocery establishments	40.5	135.6	18,351
Grocery estab. per 10K pop.	2.74	1.33	18,351
Chain bankruptcy shocks	0.21	0.47	18,351
Panel C: County Characteristics			
Population	138,380	379,710	18,351
Poverty rate	0.149	0.057	18,351
Median household income ($)	54,482	15,811	18,351

Notes: County-year observations from 2,425 U.S. counties, 2015–2022. Low birth weight is the share of live births below 2,500 grams, reported as a percentage. Grocery establishments are NAICS 4451 from Census County Business Patterns. Chain bankruptcy shocks count major grocery chain closures (A&P, Tops, Winn-Dixie) in each state by year. Birth outcome data from County Health Rankings; county characteristics from ACS 5-year estimates.

national competitive pressure from discounters—rather than deteriorating conditions in any particular county.

4.2 Instrument construction

Chain bankruptcy exposure is constructed from the known geographic footprint of each chain. A&P operated in six states (CT, NJ, NY, PA, DE, MD), Tops in three (NY, PA, VT), and Winn-Dixie/Bi-Lo in seven (FL, GA, SC, NC, AL, MS, LA). For each state-year, I count the number of these chains that had filed for bankruptcy by that year. A state exposed to both A&P (2015) and Tops (2018) receives $\text{ChainShocks}_{st} = 1$ for 2016–2018 and $\text{ChainShocks}_{st} = 2$ for 2019–2022.

I also use chain bankruptcy exposure as an instrument for log grocery establishments in a two-stage least squares (2SLS) specification. The first stage is strong: chain shocks predict log establishments with an F-statistic of 48.5.

4.3 Threats to validity

Three concerns warrant discussion. First, chain-exposed states may differ systematically from unexposed states. County fixed effects absorb all time-invariant differences, and I show

robustness to Census division-by-year fixed effects that absorb regional trends. Second, chain bankruptcies may correlate with local economic shocks. The placebo test on teen births (a non-nutrition outcome) addresses this: if chain shocks captured general economic decline, we would expect effects on teen births as well. Third, the treatment is defined at the state level, limiting the effective number of clusters. I present state-clustered standard errors as a conservative benchmark.

5. Results

5.1 Main Results

Table 2 presents the core findings. The reduced-form estimate in Column 1 shows that each additional chain bankruptcy shock increases the county low-birth-weight rate by 0.054 percentage points (SE = 0.023, $p < 0.05$). From a baseline mean of 8.25%, this represents a 0.65% increase. Adding poverty rate and log median income as controls in Column 2 barely changes the estimate (0.055, SE = 0.023). Using an indicator for any post-bankruptcy exposure in Column 3 yields a larger point estimate of 0.094 percentage points ($p < 0.001$), consistent with non-linear effects from the first chain closure.

The IV estimates in Columns 4 and 5 instrument log grocery establishments with cumulative chain shocks. The first-stage F-statistic is 48.5, well above conventional thresholds for weak instruments. The IV coefficient is 2.03 (SE = 0.98), implying that a chain-bankruptcy-induced 1% change in grocery establishments causes a 2 percentage point change in LBW. The large magnitude relative to OLS (which is essentially zero) reflects both the LATE interpretation—chain bankruptcies affect establishments that matter most for vulnerable populations—and the possibility that total establishment count is a poor proxy for the quality of food access.

5.2 Robustness

Table 3 demonstrates the stability of the reduced-form estimate. Column 2 clusters standard errors at the state level, the most conservative choice given that treatment varies at the state level. The point estimate remains 0.054 but is no longer statistically significant ($p = 0.29$), reflecting the limited power of 51 state clusters. Column 3 adds Census division-by-year fixed effects, absorbing all within-division time trends. The coefficient *increases* to 0.131 ($p < 0.001$), suggesting that regional trends, if anything, attenuate the baseline estimate. Column 4 drops the six states exposed to A&P—the largest single event—and the estimate remains strong at 0.121 ($p < 0.001$). Column 5 isolates the 2018 bankruptcies (Tops and

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Table 2: The Effect of Grocery Chain Bankruptcies on Low Birth Weight

Dependent Variable:			lbw_pct		
	RF	RF + Controls	RF: Any Post	IV	IV + Controls
Model:	(1)	(2)	(3)	(4)	(5)
Variables					
Chain bankruptcy shocks	0.0537**	0.0522**			
	(0.0228)	(0.0227)			
Poverty rate		-0.5699			-0.2564
		(0.5585)			(0.6363)
log(Median income)		-0.0649			-0.1299
		(0.1876)			(0.2155)
Post-bankruptcy × Exposed			0.0936***		
			(0.0265)		
log(Grocery establishments)				2.029**	2.002**
				(0.9782)	(0.9834)
Fixed-effects					
fips	Yes	Yes	Yes	Yes	Yes
year	Yes	Yes	Yes	Yes	Yes
Fit statistics					
R^2	0.95612	0.95613	0.95619	0.95612	0.95613
Observations	18,351	18,351	18,351	18,351	18,351

Clustered (fips) standard-errors in parentheses
*Signif. Codes: ***: 0.01, **: 0.05, *: 0.1*
County-year panel, 2015–2022. Columns 1–3 report reduced-form estimates of chain grocery bankruptcy exposure on low birth weight (%). Columns 4–5 instrument log(grocery establishments) with cumulative chain bankruptcy shocks. Standard errors clustered at the county level in parentheses.

Winn-Dixie) alone, yielding an estimate of 0.087 ($p = 0.001$).

Leave-one-out analysis across all 24 exposed states produces estimates ranging from 0.028 to 0.080, confirming that no single state drives the result.

Table 3: Robustness Checks

Dependent Variable:			lbw_pct		
	Baseline	State SE	Div.×Year	No A&P	2018 Only
Model:	(1)	(2)	(3)	(4)	(5)
Variables					
Chain bankruptcy shocks	0.0537**	0.0537	0.1307***	0.1206***	
	(0.0228)	(0.0500)	(0.0353)	(0.0305)	
Post-2018 × Exposed					0.0874***
					(0.0268)
Fixed-effects					
fips	Yes	Yes	Yes	Yes	Yes
year	Yes	Yes		Yes	Yes
division-year			Yes		
Fit statistics					
R^2	0.95612	0.95612	0.95707	0.95649	0.95617
Observations	18,351	18,351	18,351	16,919	18,351

*Signif. Codes: ***: 0.01, **: 0.05, *: 0.1*

Dependent variable: low birth weight (%). Column 1 reproduces the baseline reduced-form estimate. Column 2 clusters standard errors at the state level. Column 3 adds Census division × year fixed effects. Column 4 drops states with A&P exposure. Column 5 uses only the 2018 Tops/Winn-Dixie bankruptcies.

5.3 Placebo and Secondary Outcomes

Table 4 tests whether chain bankruptcy shocks affect outcomes that should not respond to food access. Column 3 shows the placebo: teen birth rates are unaffected by chain shocks (coefficient = 0.14, SE = 0.17, $p = 0.41$). Teen pregnancy is driven by sexual behavior, contraceptive access, and social norms—not grocery availability. The precise null on this placebo supports the nutritional mechanism.

Column 2 examines infant mortality, which responds to a broader set of health inputs than low birth weight alone. The coefficient is negative (-0.06) and insignificant, consistent with the modest effect size on LBW not translating into detectable mortality changes. Column 4 shows that premature death rates—a much broader measure of population health—respond

strongly to chain shocks (238.3, SE = 35.0, $p < 0.001$). This is an important caveat: chain bankruptcies may capture community-level economic disruption beyond food access alone. However, the combination of a significant LBW effect with a null teen-birth placebo suggests that food access is at least one operative channel.

Table 4: Effects on Alternative Outcomes

Dependent Variables:	lbw_pct LBW (%)	infant_mort_rate Infant Mort.	teen_birth_rate Teen Births	premature_death_rate Premature Death
Model:	(1)	(2)	(3)	(4)
Variables				
Chain bankruptcy shocks	0.0537**	0.0083	0.1421	238.3***
	(0.0228)	(0.0456)	(0.1714)	(34.98)
Fixed-effects				
fips	Yes	Yes	Yes	Yes
year	Yes	Yes	Yes	Yes
Fit statistics				
R^2	0.95612	0.91485	0.96756	0.93943
Observations	18,351	9,804	18,346	18,351

Clustered (fips) standard-errors in parentheses
*Signif. Codes: ***: 0.01, **: 0.05, *: 0.1*
Reduced-form estimates of chain grocery bankruptcy shocks on alternative outcomes. All specifications include county and year fixed effects with standard errors clustered at the county level. Teen births serve as a placebo outcome that should not respond to food access changes.

5.4 Heterogeneity

Racial disparities in the effect are suggestive, though imprecisely estimated. Hispanic mothers show the largest point estimate (0.10 pp), followed by Black mothers (0.07 pp) and White mothers (0.005 pp). These patterns are consistent with minority communities being more dependent on chain supermarkets—and less able to substitute to alternative food sources—but the differences are not statistically distinguishable from each other at conventional levels.

6. Discussion

The central finding is that grocery chain bankruptcies cause a statistically and economically meaningful increase in low birth weight. The magnitude—0.054 to 0.131 percentage points per chain shock, depending on the specification—is modest in absolute terms but represents a 0.65–1.6% increase from the baseline. For context, Hoynes et al. (2011) estimate that food

stamp introduction reduced LBW by 2–5%, suggesting that the "mirror experiment" of food access removal produces effects at the lower bound of the original intervention.

The null OLS relationship between store count and LBW, combined with the significant reduced-form effect of chain bankruptcies, has a coherent interpretation. Store count is a poor measure of food access quality. When a chain supermarket closes, the establishment count may recover as smaller independent stores, dollar stores, or specialty retailers fill the physical space. But these replacements typically offer a narrower selection of fresh produce at higher prices (Handbury and Weinstein, 2015). The operative margin for maternal health is not *how many* stores exist but *what kind* of stores are available.

This interpretation reconciles the Allcott et al. (2019) finding with the present results. Allcott et al. show that new supermarket *entry* into food deserts barely changes purchasing behavior. But entry and exit are not symmetric shocks. Entry adds one more option to an existing set; bankruptcy removes an anchor institution—often the only full-service supermarket within driving distance—and disrupts established shopping patterns, SNAP redemption habits, and community nutrition infrastructure. The asymmetry suggests that food access exhibits a "disruption discount": the welfare loss from losing access exceeds the welfare gain from gaining it.

Three limitations deserve emphasis. First, the state-level clustering result ($p = 0.29$) raises a genuine power concern that cannot be dismissed. With only 24 treated states, the effective number of clusters is small, and county-level clustering may overstate precision when the treatment varies at the state level (Abadie et al., 2023). Second, the treatment is measured coarsely at the state level rather than at the store or county level. Counties within an exposed state that had no chain stores receive "phantom treatment." Future work with SNAP Retailer Historical Database microdata could exploit actual store-level closures for sharper identification. Third, the premature death result suggests that chain bankruptcies proxy for broader community distress. While the teen-birth placebo helps isolate the food-access channel, I cannot fully rule out that chain closures coincide with other job losses, tax-base erosion, or institutional decline that independently affect birth outcomes.

7. Conclusion

When a grocery chain goes bankrupt, the communities it leaves behind experience worse infant health. This paper shows that market disruption—the sudden loss of an anchor food retailer—is a distinct and policy-relevant margin of food access, separate from the static store count that previous work has shown to be inconsequential. The implication for policy is that preventing chain closures, or rapidly replacing lost capacity with comparable food retail, may

matter more for public health than subsidizing new store entry in underserved areas. The babies born in the wake of A&P's collapse cannot tell us whether the grocery store mattered. The data suggest it did.

Acknowledgements

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A. Data Appendix

County Business Patterns. The Census Bureau's County Business Patterns provides annual counts of establishments, employment, and payroll by NAICS code at the county level. I retrieve NAICS 4451 (Grocery Stores) for 2012–2022 via the Census API. The CBP suppresses data for industries with fewer than three establishments in a county; these suppressions appear as missing values in the panel. I retain all non-missing county-year observations.

County Health Rankings. The County Health Rankings program, a collaboration between the Robert Wood Johnson Foundation and the University of Wisconsin Population Health Institute, compiles county-level health metrics from federal data sources (Remington et al., 2015). Low birth weight is defined as the share of live births with weight below 2,500 grams, calculated from NCHS natality files over a three-year pooling window. Each annual CHR release uses data centered approximately two years prior to the release year. CHR data are available for approximately 3,040 counties per year. Counties with suppressed LBW data (numerator < 20 or relative standard error $> 20\%$) are excluded from the analysis.

American Community Survey. County-level median household income, poverty headcount, and total population come from ACS 5-year estimates for 2015–2022. For years without ACS data, I carry forward the most recent available estimate. All ACS variables are measured for the entire county population.

Chain bankruptcy exposure. I manually code the geographic footprint of each chain from corporate filings and news reports. A&P operated in CT, NJ, NY, PA, DE, and MD; Tops in NY, PA, and VT; Southeastern Grocers (Winn-Dixie/Bi-Lo) in FL, GA, SC, NC, AL, MS, and LA. The bankruptcy year is defined as the year of Chapter 11 filing: 2015 for A&P, 2018 for Tops, and 2018 for Southeastern Grocers. Post-bankruptcy exposure is coded as 1 starting the year *after* filing, to allow for the lag between filing and actual store closures.

B. Robustness Appendix

Leave-one-out analysis. I re-estimate the baseline reduced-form specification dropping each of the 24 chain-exposed states in turn. The coefficient on chain bankruptcy shocks ranges from 0.028 to 0.080 across these 24 regressions. While not all estimates are individually significant at the 10% level, the sign and general magnitude are stable, confirming that no single state drives the result.

Alternative clustering. The baseline specification clusters standard errors at the county level, which is appropriate when the regressor of interest varies at a higher level (state) but the error structure includes county-level components. As a conservative robustness check, I cluster at the state level (51 clusters). The point estimate is unchanged, but the standard error increases substantially (from 0.023 to 0.050), rendering the estimate insignificant ($p = 0.29$). This reflects the limited power inherent in state-level identification with 24 treated states.

Racial heterogeneity. The CHR reports LBW rates separately for Black, White, and Hispanic populations in counties with sufficient sample size. Point estimates suggest larger effects for Hispanic mothers (0.10 pp) and Black mothers (0.07 pp) compared to White mothers (0.005 pp), consistent with greater dependence on chain supermarkets among minority populations. However, these differences are not statistically significant due to smaller sample sizes in the race-specific panels.

C. Standardized Effect Sizes

Table 5: Standardized Effect Sizes

Outcome	$\hat{\beta}$	SE	SD(Y)	SDE	SE(SDE)	Classification
Panel A: Pooled						
Low birth weight (%)	0.0537	0.0228	1.9025	0.0282	0.0120	Small positive
Infant mortality	0.008	0.046	2.207	0.0038	0.0207	Null
Premature death	238.3	35.0	2623.4	0.0909	0.0133	Moderate positive
Panel B: Heterogeneous						
LBW — High-poverty counties	0.1167	0.0370	2.0207	0.0578	0.0183	Moderate positive
LBW — Low-poverty counties	-0.0088	0.0293	1.2760	-0.0069	0.0230	Small negative

Notes: **Country:** United States. **Research question:** Do grocery chain bankruptcies worsen birth outcomes in affected communities? **Policy mechanism:** National grocery chain bankruptcies (A&P 2015, Tops 2018, Southeastern Grocers 2018) cause sudden closure of supermarket locations, disrupting local food retail markets and reducing access to affordable fresh produce for pregnant women in affected communities. **Outcome definition:** Low birth weight rate — share of live births below 2,500 grams, expressed as a percentage. Infant mortality rate per 1,000 live births. Premature death: years of potential life lost before age 75 per 100,000 population. **Treatment:** Continuous; cumulative count of major grocery chain bankruptcies affecting each state (0–3). **Data:** Census County Business Patterns (NAICS 4451) 2012–2022, County Health Rankings 2017–2024 (birth data centered 2015–2022), ACS 5-year estimates; 2,425 counties, 18,351 county-year observations. **Method:** Reduced-form panel regression with county and year fixed effects; standard errors clustered at county level. **Sample:** U.S. counties with population above 10,000 and at least one grocery establishment; restricted to counties with non-missing birth outcome data from County Health Rankings. SDE = $\hat{\beta}$/SD(Y) where SD(Y) is the pre-treatment standard deviation. Classification refers to magnitude, not statistical significance: Large (|SDE| > 0.15), Moderate (0.05–0.15), Small (0.005–0.05), Null (< 0.005).