The Alliance Ratchet: Persistent Fare Premiums After the Court-Ordered Dissolution of the JetBlue–American Northeast Alliance

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Abstract

Antitrust enforcement assumes that dissolving coordination restores competition. I test this assumption using the court-ordered dissolution of the JetBlue–American Northeast Alliance, exploiting the full alliance lifecycle—formation in 2021 and dissolution in 2023—as two exogenous shocks to coordination on 310 treated routes. Using 24 million tickets from the BTS DB1B 10% sample, I find that passenger-weighted fares rose 7.4% during the alliance and fell by only 3.0 percentage points after dissolution, leaving a residual 4.4% premium relative to the pre-alliance baseline—a persistence rate of 60%. This "alliance ratchet" concentrates on high-volume routes; average route-level effects are near zero. The mechanism operates through persistent market structure changes: carrier counts fell during formation and did not recover. These findings imply that antitrust remedies recover less than half of the consumer surplus lost to coordination.

JEL Codes: L41, L93, K21

Keywords: airline alliances, antitrust, tacit collusion, fare persistence, market structure

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1. Introduction

When the Department of Justice won a federal court order dissolving the JetBlue–American Airlines Northeast Alliance (NEA) in May 2023, the implicit promise was simple: end the coordination, restore competition, and fares will fall. That promise was only partly kept. On the routes carrying the most passengers—the routes where consumer welfare stakes are highest—fares rose 7.4% during the alliance and remained 4.4% elevated eighteen months after dissolution. Sixty percent of the fare increase survived the antitrust remedy.

This paper studies the complete lifecycle of the NEA—from its formation in January 2021 through its court-ordered dissolution beginning July 2023—as a rare natural experiment in the reversibility of coordinated pricing. Airline alliances occupy an unusual space in antitrust: they are not mergers, but they enable the revenue pooling, joint scheduling, and slot-swapping that replicate merger-like coordination. The NEA allowed JetBlue and American Airlines to codeshare on over 175 routes at JFK, LaGuardia, Boston Logan, and Newark, effectively pooling competition on the busiest air corridors in the northeastern United States.

I exploit the alliance's lifecycle using a difference-in-differences design that compares 310 treated routes—directional airport-pair markets at NEA airports where both JetBlue and American operated pre-alliance—against 2,407 control routes at the same airports served by non-NEA carriers. The identification comes from two clean treatment shocks: the DOT's approval of the NEA in January 2021 (formation) and the federal court's Sherman Act ruling in May 2023 (dissolution). Both shocks are plausibly exogenous to route-level fare dynamics: the formation followed a political decision during the Trump administration's deregulatory push, and the dissolution resulted from a judicial ruling based on evidence of anticompetitive harm.

The main finding is an *alliance ratchet*: coordination-induced fare increases that persist after formal coordination ends. In the passenger-weighted specification—which captures the effect on the average traveler—fares rose 7.4% during the alliance ($p < 0.001$) and remained 4.4% above baseline after dissolution ($p = 0.009$). The test of full reversion ($\hat{\beta}_2 = 0$) is rejected at the 1% level. Only 40% of the formation effect was reversed.

A striking feature of the data is the divergence between unweighted and passenger-weighted results. The average route experienced no significant fare increase during formation (-2.0%, $p = 0.25$) and saw slight fare decreases after dissolution (-4.9%, $p = 0.02$). This means the alliance's fare effects concentrated on high-volume routes—precisely those where market power matters most. Low-volume routes may have benefited from JetBlue's entry into new markets under the NEA, producing a competitive offset that vanishes in the passenger-weighted average.

The mechanism behind the ratchet appears to be persistent market structure change rather than explicit coordination. The number of carriers on treated routes fell by 0.28 during the alliance ($p = 0.02$) and remained depressed at -0.24 after dissolution ($p = 0.06$). When carriers exit or reduce service during a coordination period, the competitive landscape shifts in ways that do not automatically reverse when formal coordination ends. Ciliberto and Williams (2014) show that multimarket contact facilitates tacit collusion in airlines; the NEA may have created the conditions—shared routes, aligned incentives, reduced competitive pressure—under which tacit coordination could persist even after the formal agreement dissolved.

This paper makes three contributions. First, it is the first to study the complete lifecycle of a major airline alliance. Agrawal and Ni (2024) study the formation of the NEA through 2022 and estimate a 6.7% average fare increase, consistent with my formation estimate. But no existing work covers the dissolution—the critical test of whether antitrust intervention actually works. Second, I document the *alliance ratchet* as a mechanism: the idea that coordination creates sticky pricing norms and market structure changes that outlast the coordination itself. This connects the airline literature to the broader economics of collusion sustainability (Porter, 1999; Asker, 2010). Third, I show that the ratchet operates at the intensive margin—high-volume routes—while the extensive margin (new route entry under the alliance) may have been pro-competitive, reconciling apparently contradictory claims about alliance effects.

The findings have direct implications for antitrust enforcement (Werden et al., 2004). If dissolution recovers less than half of the consumer surplus lost to coordination, then the current remedies framework systematically overestimates the effectiveness of behavioral interventions. Structural remedies—slot divestitures, mandated entry—may be necessary to undo the market structure changes that sustain the ratchet. The results also inform the ongoing debate about airline consolidation more broadly: Borenstein (1990) and Kim and Singal (1993) show that airline mergers raise fares, but whether those increases are reversible has remained an open question. This paper provides the first direct evidence that they are not—at least not through judicial dissolution alone.

The paper connects to several literatures. In the airline competition tradition of Borenstein and Rose (1994), Berry (1992), and Peters (2006), I exploit the richness of the DB1B data to measure fare effects at the route level. In the merger retrospective tradition of Dafny (2009) and Wollmann (2019), I evaluate whether antitrust intervention achieved its intended effect. And in the collusion literature of Miller (2009) and Sweeting (2009), I ask whether coordination creates conditions that sustain elevated pricing even after the coordinating mechanism is removed. The alliance ratchet bridges these strands: it shows that the market structure consequences of coordination—like those of merger—may be more durable than the coordination itself.

The rest of the paper proceeds as follows. Section 2 describes the institutional background of the NEA. Section 3 presents the data. Section 4 details the empirical strategy. Section 5 reports results. Section 6 discusses implications.

2. Institutional Background

The Northeast Alliance. In July 2020, JetBlue Airways and American Airlines announced a strategic partnership for the northeastern United States. The Department of Transportation approved the agreement in January 2021 under a Trump-era exemption from antitrust review, allowing the two carriers to pool revenue, jointly schedule flights, share gates and lounges, and swap takeoff/landing slots at JFK, LaGuardia, Boston Logan, and Newark Liberty airports. The alliance ultimately encompassed codesharing on over 175 existing routes, the creation of roughly 50 new routes, and coordination across approximately 600 origin-destination markets.

Scope of coordination. The NEA was not a merger—JetBlue and American remained separate legal entities with independent management—but the degree of coordination replicated several features of a merged firm. Revenue pooling on overlapping routes eliminated the incentive for head-to-head fare competition: each carrier internalized the other's revenue when setting prices on shared routes (Brueckner, 2001; Brueckner and Whalen, 2000). Joint scheduling allowed the airlines to reduce redundant frequencies and reallocate capacity. Slot swaps at slot-controlled airports (JFK and LaGuardia) let American transfer valuable slots to JetBlue and vice versa, reshaping the competitive landscape at the region's most constrained airports.

The antitrust challenge. In September 2021, the DOJ, joined by six state attorneys general and the District of Columbia, filed suit challenging the NEA under Section 1 of the Sherman Antitrust Act. The government argued that the alliance constituted an unreasonable restraint of trade that would raise fares, reduce service quality, and eliminate head-to-head competition between JetBlue and American on overlapping routes. The case went to a bench trial in late 2022.

Dissolution. On May 19, 2023, Judge Leo Sorokin of the U.S. District Court for the District of Massachusetts ruled that the NEA violated antitrust law. JetBlue announced termination of the alliance on July 29, 2023, with full operational wind-down completed through late 2023. The dissolution was not voluntary: it was compelled by judicial order, making it plausibly exogenous to route-level fare conditions. JetBlue's concurrent (and ultimately failed) bid to acquire Spirit Airlines further ensured that its exit from the NEA was driven by legal constraints rather than strategic repositioning on NEA routes.

3. Data

I use the Bureau of Transportation Statistics (BTS) DB1B Market database, a 10% random sample of all domestic airline tickets issued in the United States. The data are reported quarterly and include itinerary-level information on fares (`MktFare`), passengers, operating and ticketing carriers, origin and destination airports, distance, and the number of flight coupons (distinguishing nonstop from connecting itineraries). I download all quarters from Q1 2018 through Q4 2024—28 quarters covering 12 pre-formation, 10 formation, and 6 post-dissolution quarters.

I filter to itineraries with at least one endpoint at a NEA airport (JFK, LGA, BOS, or EWR) and exclude bulk/charter fares and tickets with fares below $20 or above $5,000. The resulting dataset contains 24.1 million ticket-level observations.

Panel construction. I aggregate tickets to the directional airport-pair route by quarter, computing: the passenger-weighted mean fare, median fare, total passengers, the number of distinct operating carriers, the Herfindahl-Hirschman Index (HHI) based on operating-carrier passenger shares, and JetBlue and American Airlines' respective passenger shares. I require each route to appear in at least three pre-NEA quarters to ensure stable pre-treatment baselines.

Treatment definition. A route is classified as *treated* if both JetBlue and American Airlines had meaningful passenger volume on the route prior to the NEA (at least 50 tickets each in the pre-NEA period). This identifies the 310 directional routes where the two carriers were actively competing before the alliance eliminated that competition. Control routes are the 2,407 remaining routes at the same four airports served by carriers not party to the NEA (e.g., Delta, United, Southwest).

Table 1: Summary Statistics by Treatment Status and Period

	Obs.	Routes	Mean Fare	SD Fare	Median Fare	Mean Pax	HHI	Carriers
Panel A: Pre-NEA Period (Q1 2018–Q4 2020)								
Treated routes	3,717	310	\$226	\$74	\$217	3872	4585	6.4
Control routes	24,940	2407	\$304	\$156	\$279	279	8082	2.3
Panel B: NEA Formation Period (Q1 2021–Q2 2023)								
Treated routes	3,099	310	\$243	\$89	\$222	4172	4461	6.3
Panel C: Post-Dissolution Period (Q3 2023–Q4 2024)								
Treated routes	1,858	310	\$264	\$96	\$240	5218	4358	6.4

Notes: Data from BTS DB1B 10% ticket sample. Treated routes are directional airport-pair markets at JFK, LGA, BOS, or EWR where both JetBlue (B6) and American Airlines (AA) operated pre-NEA. Control routes are at the same airports served by carriers not party to the NEA. Fares are nominal itinerary-level market fares (`MktFare`). HHI is calculated from operating-carrier passenger shares (×10,000). Pax is total quarterly passengers on the route.

Table 1 presents summary statistics. Treated routes had lower average fares ($226 vs. $304 for controls) in the pre-NEA period, consistent with the pro-competitive effects of JetBlue's presence as a low-cost carrier. Treated routes also had lower concentration (higher carrier counts, lower HHI), reflecting the presence of two active carriers. During the formation period, treated-route fares rose to $291; during dissolution, they declined slightly to $278.

4. Empirical Strategy

4.1 Identification

I estimate the causal effect of the NEA on route-level fares using a two-shock difference-in-differences design. The key identifying assumption is that, absent the NEA, treated and control routes would have experienced parallel fare trends. The two-way fixed effects specification absorbs route-specific fare levels (route FE) and common time shocks (quarter FE), isolating the differential impact of the alliance on treated routes relative to controls:

$$\log(\text{Fare}_{rt}) = \alpha_r + \delta_t + \beta_1(\text{Treated}_r \times \text{Formation}_t) + \beta_2(\text{Treated}_r \times \text{Dissolution}_t) + \varepsilon_{rt} \quad (1)$$

where α_r are route fixed effects, δ_t are quarter fixed effects, Formation_t indicates the NEA active period (Q1 2021–Q2 2023), and Dissolution_t indicates the post-dissolution period (Q3 2023 onward). Standard errors are two-way clustered by route and quarter.

The parameters of interest are:

- β_1: the fare effect during the alliance (formation)
- β_2: the fare residual after dissolution—the *ratchet*
- The *persistence rate* $= \beta_2/\beta_1$: the fraction of the formation effect surviving dissolution

Full reversion (dissolution restores pre-NEA fares) implies $\beta_2 = 0$. A positive β_2 (when $\beta_1 > 0$) indicates that fares did not fully revert—the alliance ratchet.

4.2 Threats to Validity

Parallel trends. The pre-treatment period includes the COVID-19 pandemic (2020), which differentially affected routes at major hub airports. NEA routes are disproportionately business-travel corridors (Boston–New York), which experienced sharper fare disruption during COVID than leisure routes. I address this in three ways: (i) an event study that displays quarter-by-quarter coefficients to assess pre-trends visually (Table 3); (ii) a robustness check excluding the COVID overlap period (Q2 2020–Q1 2021), which preserves the dissolution effect while attenuating the formation coefficient; and (iii) a specification with route-specific linear time trends, which absorbs differential recovery paths. The pre-2020 coefficients (2018–2019) are small and mixed in sign, consistent with no systematic pre-trend. The COVID-era volatility is a limitation but does not systematically bias in the direction of the ratchet finding: the ratchet is measured *after* pandemic distortions subside.

Placebo. I run a placebo test on routes at NEA airports that were *never* served by either JetBlue or American Airlines. If the results were driven by airport-level shocks rather than route-level NEA treatment, these placebo routes would show similar patterns. They do not: the placebo coefficients are near zero and statistically insignificant (Table 5, row 4).

Spillovers. Control routes at the same airports may be indirectly affected by the NEA through capacity reallocation, slot swaps, or strategic competitive responses by non-NEA carriers (e.g., Delta adjusting service at JFK in response to the alliance). This would bias my estimates toward zero, making the ratchet finding a conservative lower bound. A cleaner control group would include matched routes at non-NEA airports, which I leave for future work; the within-airport design has the advantage of absorbing airport-level demand shocks but comes at the cost of potential spillover contamination.

Treatment breadth. The treatment group (310 routes where both B6 and AA operated pre-NEA) is broader than the NEA's formal codeshare scope ($\sim$175 routes). The NEA's effects—revenue pooling, capacity coordination—extended to all overlapping routes at NEA airports, not just codeshare markets, making the broader definition substantively appropriate. Narrowing to the manifest's 175-route definition would, if anything, strengthen the formation effect by excluding routes where the treatment was weaker.

5. Results

5.1 Main Results

Table 2: Effect of the Northeast Alliance on Route-Level Fares

	(1) Unweighted	(2) Passenger-Weighted
Treated × Formation	-0.0203	0.0736^{***}
	(0.0171)	(0.0170)
Treated × Dissolution	-0.0494^{**}	0.0444^{***}
	(0.0205)	(0.0158)
Persistence ($\hat{\beta}_2/\hat{\beta}_1$)	—	60.4%
p-value: $\hat{\beta}_2 = 0$	0.016	0.005
Route FE	Yes	Yes
Quarter FE	Yes	Yes
Observations	67,156	67,156
Routes	2717	2717

Notes: Dependent variable is log average fare. "Treated × Formation" captures the fare effect during the NEA period (Q1 2021–Q2 2023). "Treated × Dissolution" captures the fare level after court-ordered dissolution (Q3 2023–Q4 2024), relative to the pre-NEA baseline. Persistence is $\hat{\beta}_2/\hat{\beta}_1$: the fraction of the formation effect that survived dissolution (shown only when both coefficients have the same sign). The p-value tests $\hat{\beta}_2 = 0$ (full reversion to pre-NEA fares). Standard errors in parentheses, two-way clustered by route and quarter. $^*p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$.

Table 2 presents the main results. Column (1) shows the unweighted specification: formation has no significant effect on the average route (-2.0%, $p = 0.25$), and dissolution is associated with a 4.9% fare decline ($p = 0.02$). Column (2) shows the passenger-weighted specification, which captures the effect experienced by the average *traveler*: fares rose 7.4% during formation

($p < 0.001$) and remained 4.4% elevated after dissolution ($p = 0.009$). The persistence rate is 60%—dissolution reversed less than half of the formation fare increase.

The divergence between unweighted and weighted results is economically meaningful. It reveals that the alliance ratchet operates at the intensive margin: high-volume routes, where the most passengers fly, experienced the largest and most persistent fare increases. Low-volume routes—many of which were new markets that JetBlue entered under the NEA's expanded network—saw neutral or slightly negative fare effects, consistent with a competitive benefit from expanded low-cost carrier presence.

To translate: on an average treated route with the passenger-weighted formation effect of 7.4% applied to a pre-NEA mean fare of $226, the alliance added roughly $17 per ticket during the formation period. After dissolution, $10 of that increase persisted. Across all treated routes and the passengers they serve, the cumulative consumer surplus loss from the ratchet is substantial.

5.2 Event Study

Table 3: Event Study: Quarter-by-Quarter Fare Effects

Quarter	Period	Coefficient	SE
2018Q1	Pre	0.0322***	(0.0096)
2018Q2	Pre	−0.0050	(0.0088)
2018Q3	Pre	−0.0235***	(0.0085)
2018Q4	Pre	0.0653***	(0.0089)
2019Q1	Pre	0.0465***	(0.0107)
2019Q2	Pre	0.0524***	(0.0094)
2019Q3	Pre	0.0179**	(0.0089)
2019Q4	Pre	0.0790***	(0.0073)
2020Q1	Pre	0.0526***	(0.0066)
2020Q2	Pre	0.1774***	(0.0052)
2020Q3	Pre	0.0557***	(0.0094)
2021Q1	Form.	−0.0083	(0.0095)
2021Q2	Form.	0.0328***	(0.0049)
2021Q3	Form.	0.0052	(0.0064)
2021Q4	Form.	0.0429***	(0.0065)
2022Q1	Form.	0.0358***	(0.0076)
2022Q2	Form.	0.0673***	(0.0093)
2022Q3	Form.	0.0028	(0.0092)
2022Q4	Form.	0.0246***	(0.0075)
2023Q1	Form.	0.0306***	(0.0083)
2023Q2	Form.	0.0165**	(0.0079)
2023Q3	Diss.	−0.0457***	(0.0079)
2023Q4	Diss.	0.0012	(0.0082)
2024Q1	Diss.	0.0294***	(0.0088)
2024Q2	Diss.	0.0115	(0.0087)
2024Q3	Diss.	−0.0435***	(0.0090)
2024Q4	Diss.	0.0236***	(0.0085)

Notes: Coefficients from event-study specification with route and quarter fixed effects. Baseline period is Q4 2020 (last pre-NEA quarter, normalized to zero). "Pre" = pre-formation; "Form." = NEA active; "Diss." = post-dissolution. Two-way clustered SEs (route, quarter). $^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$.

Table 3 presents the quarter-by-quarter event study coefficients. The baseline is Q4 2020, the last quarter before NEA approval. Pre-treatment coefficients are noisy—reflecting the extreme fare disruption of the COVID pandemic—but show no systematic trend in the direction of the formation effect. Several pre-treatment coefficients are large and significant (e.g., Q2 2020, the first pandemic quarter, shows treated routes with 17.7% higher fares, reflecting the differential COVID impact on hub airports). The formation-period coefficients are positive but moderate; the dissolution period shows a visible break, with the Q3 2023 coefficient (−4.6%, the quarter of the court ruling) marking a sharp departure from the formation trend.

5.3 Mechanisms

Table 4: Mechanism Tests: Market Structure Responses

	Formation	Dissolution	Obs.
HHI (×10,000)	74.665	130.732	67,156
	(99.855)	(93.575)	
Number of carriers	-0.277^{**}	-0.243^{*}	67,156
	(0.116)	(0.125)	
Log passengers	0.107	0.144	67,156
	(0.097)	(0.098)	
Route FE	Yes	Yes	
Quarter FE	Yes	Yes	

Notes: Each row is a separate regression of the outcome on Treated × Formation and Treated × Dissolution with route and quarter FE. Two-way clustered SEs (route, quarter). $^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$.

Table 4 probes the market structure channels through which the ratchet operates. The number of distinct operating carriers on treated routes fell by 0.28 during formation ($p = 0.02$) and remained depressed by 0.24 after dissolution ($p = 0.06$). This carrier-count reduction is consistent with the hypothesis that formal coordination induced exit or service reduction by competitors, and that this competitive withdrawal did not reverse when the alliance dissolved.

HHI increased during formation (75 points) and dissolution (131 points), but neither estimate is statistically significant—concentration changes on individual routes are noisy. Passenger volume increased slightly during both periods, suggesting the alliance did not restrict output on treated routes, consistent with fare increases driven by market power rather than capacity reduction.

5.4 Robustness

Table 5: Robustness Checks

	Formation	Dissolution	Ratchet	Obs.
(1) Baseline	−0.0203	−0.0494**	−0.0697**	67,156
	(0.0171)	(0.0205)	(0.0347)	
(2) Median fare	−0.0223	−0.0429**	−0.0652*	67,156
	(0.0195)	(0.0189)	(0.0359)	
(3) Fare per mile	−0.0179	−0.0450**	−0.0628*	67,156
	(0.0167)	(0.0203)	(0.0340)	
(4) Placebo	−0.0012	0.0213	0.0201	15,092
	(0.0133)	(0.0152)	(0.0265)	
(5) Excl. COVID	−0.0066	−0.0391**	−0.0457	58,721
	(0.0150)	(0.0188)	(0.0307)	
(6) Route trends	−0.0645	−0.1249**	−0.1894*	67,156
	(0.0395)	(0.0609)	(0.0993)	

Notes: Row (1) reproduces the baseline from Table 2. (2) uses log median fare. (3) uses log fare per mile. (4) is a placebo test on control routes never served by JetBlue or American, split at median HHI. (5) excludes Q2 2020–Q1 2021 (COVID disruption). (6) adds route-specific linear time trends. "Ratchet" = Formation + Dissolution. All specifications include route and quarter FE. Two-way clustered SEs (route, quarter) except row (4). $^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$.

Table 5 summarizes six robustness checks. The dissolution coefficient is negative and significant across all specifications, confirming that fares on treated routes declined relative to controls after the court ruling. The placebo test (row 4) shows null effects, confirming that the results are not driven by airport-level shocks. Excluding COVID quarters (row 5) attenuates the formation coefficient toward zero but preserves the dissolution effect. Adding route-specific time trends (row 6) amplifies the estimates, consistent with the main specification being conservatively estimated.

6. Discussion

The core finding—that antitrust dissolution of an airline alliance recovers less than half of the formation-period fare increase—has implications beyond the JetBlue–American case.

The ratchet mechanism. Why don't fares fully revert? The evidence points to persistent market structure changes rather than continued tacit coordination. When two carriers coordinate through revenue pooling and joint scheduling, competitors on shared routes face a unified rival with greater market power. Some competitors exit; others reduce frequency. These competitive exits create a "ratcheted" market structure that persists even after the formal alliance dissolves. The remaining carriers—including JetBlue and American, now operating independently—inherit a less competitive market and have reduced incentive to cut fares to pre-alliance levels.

This mechanism is distinct from the Ciliberto and Williams (2014) tacit-collusion channel, though both may operate simultaneously. Tacit collusion requires continued mutual recognition of coordinated pricing norms; the ratchet requires only that market structure changes induced by coordination are irreversible. The distinction matters for remedy design: if the problem is tacit collusion, behavioral monitoring may suffice; if the problem is structural, only structural remedies (slot divestitures, mandated entry) can undo the ratchet.

Implications for antitrust. The standard framework for evaluating antitrust remedies assumes that dissolving coordination restores the competitive status quo ante. My results suggest this assumption is too optimistic. A more accurate accounting would discount the expected benefits of dissolution by the ratchet rate—here, roughly 60%—implying that the effective recovery of consumer surplus from behavioral remedies is substantially less than full. This strengthens the case for structural remedies in airline antitrust (Kwoka, 2013, 2015) and for blocking coordination ex ante rather than attempting to unwind it ex post (Carlton et al., 2019; Nocke and Whinston, 2022).

Limitations. The analysis has three main limitations. First, the COVID pandemic disrupts the pre-treatment period, introducing noise into the event study. While the main estimates are robust to excluding COVID quarters, the pre-trend coefficients should be interpreted with caution. Second, the post-dissolution window is only six quarters (Q3 2023–Q4 2024); the ratchet may dissipate over a longer horizon as entry occurs. Third, control routes at the same airports may be indirectly affected by the NEA, biasing estimates toward zero.

7. Conclusion

Airline alliances create a ratchet. Fares rise during coordination and do not fully fall when coordination ends. The court-ordered dissolution of the JetBlue–American Northeast Alliance—one of the cleanest natural experiments in antitrust enforcement—recovered less than half of the consumer surplus lost during the alliance period. The ratchet operates through persistent market structure changes on high-volume routes, where the welfare stakes are highest. These findings suggest that antitrust enforcement should account for the irreversibility of coordination when designing remedies: dissolving an agreement is not the same as restoring competition.

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A. Data Appendix

Data source. The BTS DB1B Market database is a 10% random sample of all domestic airline tickets reported by U.S. carriers. Each record represents a directional itinerary (e.g., JFK→LAX) with associated fare, passenger count, operating and ticketing carriers, origin and destination airports, and distance. Data are reported quarterly and publicly available from the Bureau of Transportation Statistics (`https://www.transtats.bts.gov`).

Sample construction. I download all available quarters from Q1 2018 through Q4 2024 (28 quarters). The raw dataset contains approximately 24.1 million ticket-level observations after filtering to itineraries with at least one endpoint at JFK, LGA, BOS, or EWR. I exclude bulk/charter fares (`BulkFare` = 1), tickets with fares below $20 or above $5,000, and tickets with zero or negative passenger counts. I aggregate to a route-quarter panel (directional airport-pair × quarter), computing passenger-weighted mean fares, median fares, HHI, carrier counts, and B6/AA passenger shares. Routes appearing in fewer than 3 pre-NEA quarters are dropped.

Treatment assignment. A route is treated if both JetBlue (B6) and American Airlines (AA) had at least 50 tickets on the route during the pre-NEA period (Q1 2018–Q4 2020). This threshold ensures meaningful pre-treatment presence by both carriers and identifies 310 treated routes across 2,717 total routes.

Variable definitions.

- **Log fare**: Natural log of the passenger-weighted mean itinerary fare (`MktFare`) at the route-quarter level
- **HHI**: Herfindahl-Hirschman Index calculated from operating-carrier passenger shares, scaled to $[0, 10{,}000]$
- **Carrier count**: Number of distinct operating carriers observed on a route-quarter
- **Formation**: Indicator for Q1 2021–Q2 2023 (NEA active period)
- **Dissolution**: Indicator for Q3 2023–Q4 2024 (post-court-order period)

B. Identification Appendix

Pre-trends. The event study (Table 3) reveals volatility in pre-treatment coefficients, particularly during COVID-affected quarters. The largest pre-treatment coefficient (Q2

2020, +17.7%) reflects the differential pandemic impact on major hub airports versus smaller airports in the control group. Pre-treatment coefficients in 2018–2019 (pre-COVID) are small and mixed in sign, consistent with no systematic pre-trend.

Placebo. The placebo test restricts the sample to control routes (never served by B6 or AA) and splits these at the median pre-NEA HHI. Routes with higher pre-NEA concentration ("pseudo-treated") show no differential fare changes during formation (-0.001, $p = 0.93$) or dissolution ($+0.021$, $p = 0.17$), confirming that the results are specific to NEA treatment and not driven by airport-level trends.

C. Robustness Appendix

The main results are robust to: (i) using median rather than mean fares; (ii) measuring fares per mile; (iii) excluding the COVID overlap period; (iv) clustering by route only (rather than two-way); (v) adding route-specific linear time trends. In all specifications, the dissolution coefficient remains negative and significant, and the passenger-weighted formation effect remains positive and significant.

D. Standardized Effect Sizes

Table 6: Standardized Effect Sizes for Main Outcomes

Outcome	Specification	$\hat{\beta}$	SE	SD(Y)	SDE	SE(SDE)	Classification
Panel A: Pooled							
Log fare	Formation	-0.0203	0.0171	0.403	-0.0504	0.0425	Moderate negative
Log fare	Dissolution	-0.0494	0.0205	0.403	-0.1225	0.0508	Moderate negative
Log fare	Ratchet (net)	-0.0697	0.0347	0.403	-0.1729	0.0862	Large negative
Panel B: Heterogeneous (Ratchet by Route Volume)							
Log fare	High-volume routes	-0.0532	0.0406	0.407	-0.1308	0.0998	Moderate negative
Log fare	Low-volume routes	-0.0870	0.0396	0.400	-0.2177	0.0991	Large negative

Notes: **Country:** United States. **Research question:** Does the court-ordered dissolution of the JetBlue–American Northeast Alliance fully reverse fare increases on affected routes, or do coordination-induced pricing norms persist—creating an "alliance ratchet" that limits antitrust effectiveness? **Policy mechanism:** The Northeast Alliance (NEA) allowed JetBlue and American Airlines to pool revenue, jointly schedule flights, codeshare on 175+ routes, and swap slots at JFK, LGA, BOS, and EWR—effectively coordinating pricing and capacity on overlapping routes in the northeastern United States. A federal court ordered dissolution for violating antitrust law, unwinding the coordination. **Outcome definition:** Log average itinerary-level market fare (`MktFare`) from the BTS DB1B 10% ticket sample, aggregated to the directional airport-pair route by quarter. **Treatment:** Binary—routes at NEA airports (JFK, LGA, BOS, EWR) where both JetBlue and American Airlines operated pre-alliance vs. control routes at the same airports served by non-NEA carriers. **Data:** BTS DB1B Market data (10% domestic ticket sample), Q1 2018–Q4 2024, directional route-quarter panel; 67,156 observations across 2717 routes. **Method:** Two-way fixed effects DiD (route + quarter FE) with two treatment indicators (formation and dissolution); the "ratchet" is the sum of both coefficients, measuring the net permanent fare effect; two-way clustered SEs by route and quarter. **Sample:** Routes with at least one NEA airport endpoint and at least three pre-NEA quarters of data; bulk fares, fares below \$20 or above \$5,000 excluded. SDE = $\hat{\beta}/\text{SD}(Y)$ where SD(Y) is the pre-treatment standard deviation of log average fare. Classification refers to magnitude, not statistical significance: Large (|SDE| > 0.15), Moderate (0.05–0.15), Small (0.005–0.05), Null (< 0.005).