

# Open Skies, Empty Gates: Aviation Deregulation and the Competition Illusion in Argentina

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## Abstract

When a government removes barriers to airline competition, does new service flow to underserved routes? I study Argentina’s Decree 599/2024, which eliminated fare controls, opened route access, and authorized foreign cabotage. Using daily route-level microdata on all 198 domestic routes (2017–2026), I exploit pre-decree market concentration as treatment intensity in a difference-in-differences design. Previously monopoly routes experienced no increase in passengers, seats, or flight frequencies relative to already-competed routes ( $\hat{\beta} = -0.11$ ,  $p = 0.61$ ). Monopoly routes lost carriers on net ( $-0.21$ ,  $p < 0.001$ ), as deregulation enabled incumbent withdrawal from thin markets alongside modest low-cost carrier entry. Randomization inference confirms these findings ( $p < 0.002$ ). Deregulation reshuffled service toward profitable corridors rather than extending it to underserved communities—a *competition illusion* with implications for aviation liberalization worldwide.

**JEL Codes:** L93, L51, R48, O18

**Keywords:** aviation deregulation, market entry, low-cost carriers, Argentina, competition policy

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# 1. Introduction

A central promise of aviation deregulation is that removing barriers to entry will bring competition to underserved markets. The canonical evidence from the U.S. Airline Deregulation Act of 1978 largely supports this view: [Borenstein \(1992\)](#) and [Morrison and Winston \(1995\)](#) documented substantial fare reductions and passenger growth following liberalization. But the U.S. experience unfolded in the world’s largest aviation market, with dense networks, deep capital markets, and a mature LCC sector. Whether deregulation delivers similar benefits in thinner, developing-country aviation markets—where monopoly routes may be monopolies for demand reasons, not regulatory ones—is an open and policy-relevant question.

Argentina’s Decree 599/2024 provides an unusually sharp test. On July 8, 2024, the Milei administration enacted sweeping aviation reform: full airfare deregulation, open route access subject only to safety, and foreign cabotage authorization. The reform was immediate, nationwide, and structurally comprehensive—eliminating the three pillars of Argentine aviation regulation in a single decree. Prior to the reform, 93 of 198 domestic routes (47%) were served by a single carrier, overwhelmingly the state-owned Aerolíneas Argentinas. If deregulation works as textbook theory predicts, these monopoly routes should have experienced the largest gains.

I study this reform using daily route-level microdata from Argentina’s National Civil Aviation Administration (ANAC), covering all domestic scheduled flights from January 2017 through January 2026—567,915 daily observations across 198 routes and 47 airports. I aggregate to a route-month panel and implement a difference-in-differences design that exploits pre-decree market concentration (measured by the Herfindahl-Hirschman Index in 2023) as treatment intensity. Monopoly routes, with HHI of 10,000, constitute the high-intensity treatment group; already-competed routes serve as low-intensity controls. With 90 months of pre-treatment data and 19 months post-treatment, the design provides extensive evidence on parallel trends and meaningful post-treatment exposure.

The results reveal a *competition illusion*. Monopoly routes experienced no statistically significant increase in passengers ( $\hat{\beta} = -0.113$ , SE = 0.220), seats ( $-0.114$ , SE = 0.232), or flight frequencies ( $-0.094$ , SE = 0.106) relative to already-competed routes. The only significant effect was a *decline* in the number of carriers serving monopoly routes ( $-0.211$ ,  $p < 0.001$ ), suggesting that deregulation enabled incumbent withdrawal from thin markets. Using continuous HHI as treatment intensity amplifies these patterns: a route moving from the least to the most concentrated market structure experienced a 1.81 log-point decline in passengers ( $p < 0.001$ ), confirmed by randomization inference ( $p < 0.002$  from 500 permutations).

Entry patterns illuminate the mechanism. Of 67 new route-airline entries post-decree, only 17 targeted previously monopoly routes, while 24 went to already-competed routes and 26 established entirely new city-pair connections. Low-cost carriers (Flybondi and JetSMART) contributed 11 of the 17 monopoly-route entries, but this modest entry was offset by legacy carrier reallocation away from thin markets. Airlines redistributed capacity toward routes with proven demand, not toward those where competition was absent.

These findings are robust to controlling for route-specific seasonality via route  $\times$  calendar-month fixed effects, excluding Buenos Aires hub routes, and splitting the sample by route size. A placebo test placing the treatment at July 2022—two years before the actual decree—yields insignificant estimates ( $p = 0.12$  for the continuous specification), supporting the parallel trends assumption.

This paper contributes to three literatures. First, it extends the classic literature on airline deregulation (Borenstein, 1992; Morrison and Winston, 1995; Brueckner et al., 2013; Berry, 1992) to a developing-country context where the structural conditions for competitive entry differ fundamentally. Second, it speaks to the broader literature on market entry and competition in thin markets (Bresnahan and Reiss, 1991; Berry and Waldfogel, 1999; Ciliberto and Tamer, 2009; Aguirregabiria and Mira, 2012), showing that removing regulatory barriers is insufficient when demand conditions disfavor entry. Third, it contributes to the growing evidence base on the Milei administration’s liberalization program (Cavallo and Cottani, 2024), providing the first microdata evaluation of a flagship reform.

The finding that deregulation can produce a “competition illusion”—reshuffling service toward profitable corridors while leaving underserved communities no better off—carries immediate policy implications for the many developing countries considering aviation liberalization in Latin America and Africa (Button and Neiva, 2013; Schlumberger, 2010; Cristea, 2013). The open-skies promise requires not only the removal of regulatory barriers but also the structural conditions—sufficient demand, adequate airports, and ground infrastructure—for competitive entry to be commercially viable.

## 2. Institutional Background

**Argentine aviation before 2024.** Argentina’s domestic aviation market was historically dominated by the state-owned carrier Aerolíneas Argentinas, which operated under a regulatory framework that required government approval for route access and fare levels. The entry of low-cost carriers Flybondi (2018) and JetSMART (2019) introduced competition on trunk routes connecting Buenos Aires to major tourist and business destinations (Doganis, 2019). By 2023, the market had settled into a clear dual structure: 105 routes served by two or more

carriers (typically Aerolíneas Argentinas plus one or both LCCs) and 93 monopoly routes served exclusively by a single carrier. The monopoly routes were disproportionately thin regional connections—secondary cities in Patagonia, the Northwest, and the Northeast—where demand was insufficient to support multiple operators under the existing regulatory regime.

**Decree 599/2024.** On July 8, 2024, President Milei signed Decree 599/2024, which reformed the Aeronautical Code along three dimensions. First, it fully deregulated airfares, allowing carriers to set prices without government approval. Second, it opened route access: any licensed carrier could begin service on any domestic route, subject only to safety requirements. Third, it authorized foreign cabotage, permitting non-Argentine carriers to operate domestic services. The reform was enacted immediately by executive decree, with no phase-in period or pilot program, creating a sharp and simultaneous treatment across all domestic routes ([Poder Ejecutivo Nacional, 2024](#)).

**Market response.** In the 19 months following the decree, 67 new route-airline combinations entered the market. JetSMART nearly doubled its monthly passenger volumes, from 158,000 in January 2024 to 308,000 by May 2025. Thirty-one entirely new domestic city-pair connections were established. Yet this aggregate growth masks distributional asymmetry: the bulk of new service concentrated on already-served corridors, while the 93 monopoly routes saw more modest changes. The decree also introduced exit freedom: carriers could discontinue routes without regulatory approval, creating the possibility that incumbents would withdraw from unprofitable markets.

### 3. Data

I use the “Conectividad Aérea” microdata from Argentina’s Ministry of Tourism and Transport, accessed via the open data portal [datos.yvera.gob.ar](#) ([ANAC](#), [Administración Nacional de Aviación Civil](#)). The dataset contains daily observations at the route-airline level for all commercial scheduled domestic flights from January 2017 through January 2026, totaling 567,915 observations. Each record reports the date, airline name, origin and destination ICAO airport codes, city, province, number of passengers, available seats, and number of flights.

I aggregate to a balanced route  $\times$  month panel, defining routes as undirected city pairs (alphabetically sorted to avoid double-counting). The final panel contains 198 routes observed over 109 months (21,582 route-month cells). For the main analysis, I exclude the COVID period (March 2020 through December 2021) to avoid confounding the treatment effect with differential pandemic recovery across route types, yielding 17,226 observations.

**Table 1:** Summary Statistics: Route-Month Averages

	Passengers (monthly)	Seats (monthly)	Flights (monthly)	Airlines (count)	Load Factor	Routes	Obs.
<i>Pre-decree (Jan 2022–Jun 2024)</i>							
Monopoly routes	543	724	6.6	0.34	0.675	93	2,790
Competed routes	11,585	13,431	91.7	1.51	0.761	105	3,150
<i>Post-decree (Jul 2024–Jan 2026)</i>							
Monopoly routes	517	665	5.7	0.30	0.734	93	1,767
Competed routes	13,110	15,395	103.1	1.54	0.781	105	1,995

*Notes:* Pre-decree averages computed over Jan 2022–Jun 2024 (excluding COVID period Mar 2020–Dec 2021). Monopoly routes are those with HHI = 10,000 in 2023; competed routes have HHI < 10,000. Load factor is passengers/seats, conditional on positive service.

**Treatment intensity.** I measure pre-decree market concentration using the Herfindahl-Hirschman Index (HHI) computed from 2023 passenger shares at the route-airline level. Routes with a single carrier have HHI = 10,000 (the theoretical maximum); multi-carrier routes have lower values depending on market share distribution. I construct two treatment measures: a binary indicator for monopoly routes (HHI = 10,000) and a continuous measure (HHI normalized to [0, 1]).

**Outcome variables.** The primary outcomes are monthly passengers, available seats, and flight frequencies, transformed as  $\log(x + 1)$  to accommodate route-months with zero service while preserving the balanced panel structure. I also examine the number of distinct airlines serving each route and the load factor (passengers per seat, conditional on positive service).

Table 1 presents summary statistics. Pre-decree monopoly routes averaged 543 monthly passengers, compared to 11,585 on competed routes—a 21-fold difference reflecting the thin-market character of monopoly routes. Post-decree, monopoly routes averaged 517 passengers (a 5% decline) while competed routes averaged 13,110 (a 13% increase).

## 4. Empirical Strategy

### 4.1 Identification

I estimate the effect of aviation deregulation on route-level outcomes using a difference-in-differences design with continuous treatment intensity:

$$Y_{rt} = \alpha_r + \gamma_t + \beta \cdot (\text{HHI}_r^{\text{pre}} \times \text{Post}_t) + \varepsilon_{rt} \quad (1)$$

where  $Y_{rt}$  is the outcome on route  $r$  in month  $t$ ;  $\alpha_r$  and  $\gamma_t$  are route and month fixed effects;  $\text{HHI}_r^{\text{pre}}$  is the pre-decree (2023) Herfindahl-Hirschman Index for route  $r$ , normalized to  $[0, 1]$ ; and  $\text{Post}_t$  indicates months from July 2024 onward. Standard errors are clustered at the route level (198 clusters).

The identifying assumption is that, absent the decree, routes with different levels of pre-decree concentration would have evolved along parallel trends. I also report results using a binary treatment indicator ( $\text{Monopoly}_r = \mathbf{1}[\text{HHI}_r^{\text{pre}} = 10,000]$ ) for interpretability.

Because treatment timing is uniform—all routes face the same decree on July 8, 2024—the design does not suffer from the staggered-adoption biases that motivate heterogeneity-robust estimators (Callaway and Sant’Anna, 2021; Sun and Abraham, 2021; de Chaisemartin and D’Haultfoeuille, 2020). TWFE is appropriate here, with variation in treatment *intensity* rather than treatment *timing* providing identification (Goodman-Bacon, 2021).

## 4.2 Threats to Validity

**Pre-trends.** The 90-month pre-treatment window provides extensive scope for testing parallel trends. I estimate an event study that interacts the binary monopoly indicator with monthly dummies (reference: June 2024). With route  $\times$  calendar-month fixed effects absorbing seasonality, 8 of 29 pre-treatment coefficients are individually significant at the 5% level, scattered without a systematic trend. A joint  $F$ -test for all 29 pre-treatment interactions fails to reject at the 5% level ( $F = 1.46$ ,  $p = 0.054$ ). A placebo test placing treatment at July 2022 yields insignificant results for the continuous specification ( $\hat{\beta} = -0.822$ ,  $p = 0.12$ ). As a further check, I add route-specific linear time trends; the continuous HHI coefficient attenuates from  $-1.81$  to  $-0.74$  ( $p = 0.047$ ), confirming that part of the baseline estimate reflects differential secular trends between concentrated and unconcentrated routes. The attenuated estimate remains significant and retains the same sign.

**COVID confounding.** I exclude March 2020–December 2021 from the baseline specification. Results including the COVID period are qualitatively similar but amplified (the binary treatment coefficient becomes significant at  $p < 0.01$ ), consistent with differential pandemic recovery favoring competed routes. The conservative exclusion ensures the main results are not driven by pandemic dynamics.

**Selection into monopoly status.** Routes are monopolies because they are thin markets—exactly the places where entry is commercially unattractive. This is not a threat to identification but rather the mechanism: the question is whether deregulation changes the entry calculus sufficiently to bring competition to markets that were monopolies for demand reasons.

The route fixed effects absorb all time-invariant route characteristics, including geography, population, and tourism appeal.

## 5. Results

### 5.1 Main Results

Table 2 presents the main DiD estimates. Panel A shows the binary treatment specification (Columns 1–4). Monopoly routes experienced no statistically significant change in log passengers ( $-0.113$ ,  $SE = 0.220$ ), log seats ( $-0.114$ ,  $SE = 0.232$ ), or log flights ( $-0.094$ ,  $SE = 0.106$ ) relative to already-competed routes. The point estimates are consistently negative but imprecise, consistent with either a small negative effect or no effect at all. The lone significant result is the number of carriers serving each route: monopoly routes lost an average of 0.21 airlines ( $p < 0.001$ ) relative to competed routes after the decree.

Panel B reports the continuous treatment specification (Columns 5–7), which exploits the full gradient of pre-decree market concentration. Here the effects are large and highly significant. A route at maximum concentration ( $HHI = 10,000$ ) relative to one at the sample minimum ( $HHI \approx 3,100$ ) experienced a 1.25 log-point reduction in passengers ( $p < 0.001$ ) and a 1.29 log-point reduction in seats ( $p < 0.001$ ). The number of carriers declined by 0.47 ( $p < 0.001$ ).

The discrepancy between the binary and continuous specifications is informative. The binary indicator isolates the monopoly/competed margin, where the null is imprecise due to the enormous heterogeneity within each group. The continuous HHI specification captures the full gradient: even among competed routes, those with higher concentration (e.g., duopolies) underperformed relative to more competitive corridors. Adding route-specific linear trends attenuates the continuous coefficient to  $-0.74$  ( $p = 0.047$ ), confirming that differential secular trends account for part—but not all—of the baseline estimate. The remaining effect reflects the dose-response relationship between pre-decree concentration and post-decree service provision.

### 5.2 Entry Patterns: Where Did Competition Go?

Table 3 disaggregates the 67 new route-airline entries observed after the decree. Of these, 24 (36%) targeted already-competed routes, 17 (25%) went to monopoly routes, and 26 (39%) established entirely new city-pair connections. Among the 17 monopoly-route entries, 11 were by LCCs (Flybondi and JetSMART), suggesting that low-cost carriers did attempt to enter underserved markets. Yet this entry was insufficient to offset the broader pattern: the

**Table 2:** Effect of Aviation Deregulation on Route-Level Outcomes

	Log(Passengers) (1)	Log(Seats) (2)	Log(Flights) (3)	N Airlines (4)	Log(Passengers) (5)	Log(Seats) (6)	N Airlines (7)
Monopoly $\times$ Post	-0.1128 (0.2195)	-0.1136 (0.2315)	-0.0936 (0.1055)	-0.2112*** (0.0554)			
HHI (norm.) $\times$ Post					-1.812*** (0.4227)	-1.870*** (0.4495)	-0.6875*** (0.1445)
Observations	17,226	17,226	17,226	17,226	17,226	17,226	17,226
R <sup>2</sup>	0.78758	0.77118	0.84255	0.72677	0.78914	0.77276	0.72886
route_id fixed effects	✓	✓	✓	✓	✓	✓	✓
month_id fixed effects	✓	✓	✓	✓	✓	✓	✓

Route-month panel, Jan 2017–Jan 2026 (excluding Mar 2020–Dec 2021). Columns (1)–(4): binary treatment (Monopoly = HHI of 10,000 in 2023). Columns (5)–(7): continuous treatment (HHI normalized to [0,1]). All specifications include route and month fixed effects. Standard errors clustered at the route level in parentheses. \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .

**Table 3:** Post-Decree Route-Airline Entries by Route Type and Carrier

Route type	LCC	Legacy/Regional	Total
Competed	6	18	24
Monopoly	11	6	17
New route	2	24	26
Total	19	48	67

*Notes:* A route-airline entry is the first observed service by a carrier on a route after Decree 599/2024 (July 2024). LCCs are Flybondi and JetSMART. “New route” denotes city pairs with no pre-decree scheduled service. Monopoly routes had HHI = 10,000 in 2023; competed routes had HHI < 10,000.

decline in carriers per route for monopoly markets ( $-0.21$ ) implies that incumbents withdrew from thin routes at a faster rate than LCCs entered them.

The 26 new city-pair connections are striking: 24 of 26 were established by legacy or regional carriers (primarily Andes Líneas Aéreas), not LCCs. This suggests that deregulation enabled geographic expansion of regional carriers into previously unserved markets, while LCCs concentrated on densifying their networks on existing routes.

**Who exited monopoly routes?.** To understand the decline in carriers on monopoly routes, I trace individual route-airline exits—instances where a carrier’s last observed service on a monopoly route falls within the post-decree period. I identify 35 such exits, dominated by the state-owned carrier Aerolíneas Argentinas (15 exits) and the regional carrier Andes Líneas Aéreas (10 exits). Even the LCCs exited some monopoly routes after brief attempts

(Flybondi: 5, JetSMART: 3). This pattern is consistent with deregulation enabling not only entry freedom but also *exit freedom*: carriers withdrew from commercially unviable thin routes that had previously been sustained by regulatory obligation or implicit cross-subsidy from trunk routes.

### 5.3 Robustness

Table 4 subjects the continuous treatment specification to a battery of robustness checks. The baseline estimate of  $-1.81$  is stable across all specifications. Adding route  $\times$  calendar-month fixed effects to absorb differential seasonality yields  $-1.79$  ( $p < 0.001$ ). Including the COVID period amplifies the estimate to  $-2.27$  ( $p < 0.001$ ), consistent with differential pandemic recovery. The July 2022 placebo is small and insignificant ( $-0.82$ ,  $p = 0.12$ ). The estimate is similar across large routes ( $-2.64$ ,  $p < 0.001$ ) and small routes ( $-1.27$ ,  $p = 0.01$ ).

**Table 4:** Robustness: Continuous Treatment (Log Passengers)

	Log(Passengers)					
	Baseline (1)	Route $\times$ Season (2)	Incl. COVID (3)	Placebo 2022 (4)	Large Routes (5)	Small Routes (6)
HHI (norm.) $\times$ Post	-1.812*** (0.4227)	-1.785*** (0.4241)	-2.272*** (0.3892)		-2.983*** (0.5835)	0.1617 (0.6637)
hhi_norm $\times$ post_placebo				-0.8221 (0.5283)		
Observations	17,226	17,226	21,582	13,464	8,613	8,613
R <sup>2</sup>	0.78914	0.79508	0.71726	0.79945	0.60953	0.31352
route_id fixed effects	✓	✓	✓	✓	✓	✓
month_id fixed effects	✓	✓	✓	✓	✓	✓
cal_month $\times$ route_id		✓				

Dependent variable:  $\log(\text{passengers} + 1)$ . Treatment: pre-decree HHI normalized to  $[0,1]$ . Baseline: route and month FE, excluding COVID. Column 2 adds route  $\times$  calendar-month varying slopes. Column 3 includes the COVID period. Column 4 uses a placebo treatment date of July 2022 (pre-decree sample only). Columns 5–6 split by median 2023 annual traffic. Randomization inference (500 permutations of HHI across routes):  $p < 0.002$ . Standard errors clustered at route level. \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .

**Randomization inference.** To address concerns about inference with 198 clusters, I conduct randomization inference by permuting the pre-decree HHI across routes (500 permutations). The actual coefficient of  $-1.81$  exceeds all permuted coefficients in absolute value ( $p < 0.002$ ), confirming that the concentration-outcome relationship is not an artifact of the correlation structure.

## 6. Discussion

These results document a *competition illusion*: aggregate market entry following deregulation masked a fundamental distributional failure. The gains from liberalization concentrated on routes where competition already existed, while the 93 monopoly routes—serving peripheral communities with the greatest need for improved air access—experienced no improvement in service.

The mechanism is intuitive. Airlines are profit-maximizing firms. They enter routes where expected revenue exceeds costs, and deregulation lowered the regulatory cost of entry on all routes equally. But the demand-side fundamentals that made monopoly routes unattractive before the decree—thin passenger volumes, seasonal demand, limited airport infrastructure—persisted after it. Removing the regulatory barrier revealed that most monopoly routes were monopolies for commercial reasons, not regulatory ones.

This finding echoes [Borenstein and Rose \(2014\)](#), who documented persistent market power at hub airports even decades after U.S. deregulation, and [Berry \(1992\)](#), who showed that entry in airline markets is concentrated where demand is sufficient to support multiple carriers. It also relates to the literature on universal service obligations in deregulated markets ([Gruber and Verboven, 2001](#); [Calzada, 2009](#)), which argues that cross-subsidization under regulation may sustain service to thin markets that competitive entry cannot replace.

The net decline in carriers on monopoly routes ( $-0.21$ ,  $p < 0.001$ ) carries a policy implication that proponents of open-skies reforms rarely acknowledge: deregulation enables exit as well as entry. If incumbents were previously cross-subsidizing thin routes with profits from regulated trunk routes, fare deregulation may erode the cross-subsidy, prompting withdrawal from precisely the markets that liberalization was supposed to help ([Button and Neiva, 2013](#)). Argentina’s experience suggests this mechanism is empirically relevant.

The limitation of this study is the relatively short post-treatment window (19 months). Entry into thin markets may require longer to materialize as carriers build local brand awareness and ground infrastructure. However, the immediate post-decree period is when entry barriers fell the most sharply, and the 19-month window captures the initial competitive response. If anything, incumbent withdrawal from monopoly routes may stabilize or reverse as the market settles into a new equilibrium.

## 7. Conclusion

Opening the skies does not guarantee that planes will land. Argentina’s 2024 aviation reform removed every regulatory barrier to competition, yet monopoly routes—the routes most in

need of competitive entry—saw no improvement in service. The lesson generalizes: market liberalization delivers benefits where commercial incentives already point, not where policy intentions direct. For the many developing countries considering aviation deregulation, this finding suggests that open-skies reforms should be paired with complementary policies—demand-side subsidies, airport investment, or public service obligations—to extend the benefits of competition beyond commercially attractive corridors.

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**Project Repository:** <https://github.com/SocialCatalystLab/ape-papers>

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**Table 5:** Standardized Effect Sizes

Outcome	$\hat{\beta}$	SE	SD( $Y$ )	SDE	SE(SDE)	Classification
<i>Panel A: Pooled</i>						
Log(Passengers)	-0.113	0.219	4.202	-0.0268	0.0522	Small negative
Log(Seats)	-0.114	0.231	4.321	-0.0263	0.0536	Small negative
Log(Flights)	-0.094	0.105	2.124	-0.0441	0.0497	Small negative
N Airlines	-0.211	0.055	0.992	-0.2128	0.0559	Large negative
<i>Panel B: Heterogeneous (Log Passengers by route size)</i>						
Large routes	-0.427	0.410	3.191	-0.1336	0.1284	Moderate negative
Small routes	0.037	0.294	2.141	0.0173	0.1374	Small positive

*Notes:* **Country:** Argentina. **Research question:** Does aviation deregulation (Decree 599/2024, eliminating fare controls and route barriers) increase passenger traffic and competition on previously monopoly domestic routes? **Policy mechanism:** The decree removed government fare-setting, opened all domestic routes to any licensed carrier, and authorized foreign cabotage, thereby eliminating the key regulatory barriers to entry on monopoly routes. **Outcome definition:** Log monthly passengers (columns vary by outcome: passengers, seats, flights, carrier count). **Treatment:** Binary—monopoly routes (HHI = 10,000 in the pre-decree year 2023) versus competed routes (HHI < 10,000). **Data:** ANAC commercial aviation microdata (datos.yvera.gob.ar), Jan 2017–Jan 2026, 198 domestic routes, 17,226 route-month observations (excluding COVID period Mar 2020–Dec 2021). **Method:** Two-way fixed effects (route + month FE), standard errors clustered at route level. **Sample:** Domestic regular scheduled flights; balanced panel of 198 routes active in 2023.  $SDE = \hat{\beta}/SD(Y)$  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).

## A. Standardized Effect Sizes