# Flying the JetBlue Skies

## Proposed Spirit Merger and Competition in Aviation

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- JetBlue Attempted to buy Spirit Airlines in 2022

- DOJ Sues to Block the Merger in 2023

- Merger Blocked in 2024 Following Trial

- This Paper Evaluates the Merger's Counterfactual Price Effects.

# Preview of Results

- In the average JetBlue-Spirit market, customers would have paid $876,000 more following the merger.
- Under favorable assumptions, minimum fares would have risen by $4 after the merger.
    - Under the least favorable assumptions, minimum fares would have risen by over $20 following the merger.
- Price changes following the merger are strongest at lower end of the fare distribution, consistent with ruling in the case.

# Setting

Spirit and JetBlue

- JetBlue
  - Third Largest Low-Cost Carrier
  - Recent Anti-Competitive Conduct
    - Northeast Alliance with American
    - Attempted Spirit Merger
- Spirit
  - Largest Ultra-Low Cost Carrier
  - Maverick Firm Focused on Budget Focused Travelers
  - Monday: Filed for Chapter 11 Bankruptcy

# Data

- Airline Origin and Destination Survey (DB1B)
    - 10% Sample of Domestic Passenger Itineraries
    - Data on Origin, Destination, Price, Route, Carrier
- Markets defined as Year-Quarter-Origin-Destination
- Market Size is the Geometric Mean of the Population of Origin, Destination Metropolitan Statistical Areas
- Products Further Defined by Carrier, Nonstop Status
    - Air Travel in One Nest, Outside Good in the Other.

# Random Coefficient Nested Logit

- Consumer $i$ in market $t$ has indirect utility from buying product $j$ as defined by

$$U_{ijt} = \delta_{jt} + \mu_{ijt} + \epsilon_{ijt}$$

- $\delta_{jt}$ is the mean utility across consumers in market $t$ for product $j$

- $\mu_{ijt}$ is the consumer's deviation from this mean utility

- $\epsilon_{ijt}$ is an unobserved consumer-level shock such that

$$\epsilon_{ijt} = \bar{\epsilon}_{ih(j)t} + (1 - \rho)\bar{\epsilon}_{ijt}$$

- $\rho$ is the nesting parameter.

# Random Coefficient Nested Logit Results

| Variable | Post-Pandemic | Pre-Pandemic |
|---|---|---|
| Price | -3.114 | -2.947 |
| | (0.44) | (0.34) |
| Price ($\sigma$) | 0.599 | 0.59 |
| | (0.12) | (0.12) |
| Nesting Parameter | 0.115 | 0.136 |
| | (0.032) | (0.045) |
| Period | 2017Q1-2019Q4 | 2021Q2-2023Q2 |
| N Products | 265196 | 307849 |
| N Markets | 70016 | 87363 |
| Mean Elasticity | -5.211 | -5.323 |
| Spirit Mean Elasticity | -3.44 | -3.15 |
| JetBlue Mean Elasticity | -5.18 | -5.16 |
| Mean Markup | 0.21 | 0.203 |

# Merger Simulation

- Three Counterfactuals
    - JetBlue, Spirit Products Combine
    - Resulting Products Have:
        - Lowest Marginal Cost of the Two
        - Average Marginal Cost of the Two
        - Highest Marginal Cost

- Today: Post-Pandemic Change in Minimum Fare

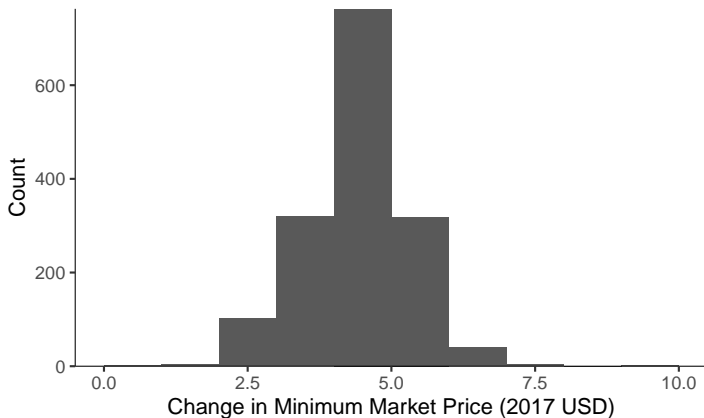# Merger Simulation Results: Minimum Fare

## Lowest Marginal Cost

# Merger Simulation Results: Minimum Fare

## Average Marginal Cost
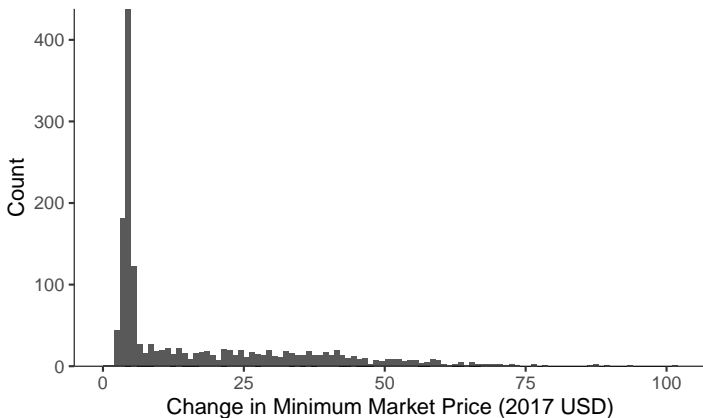
# Merger Simulation Results: Minimum Fare

## Greatest Marginal Cost
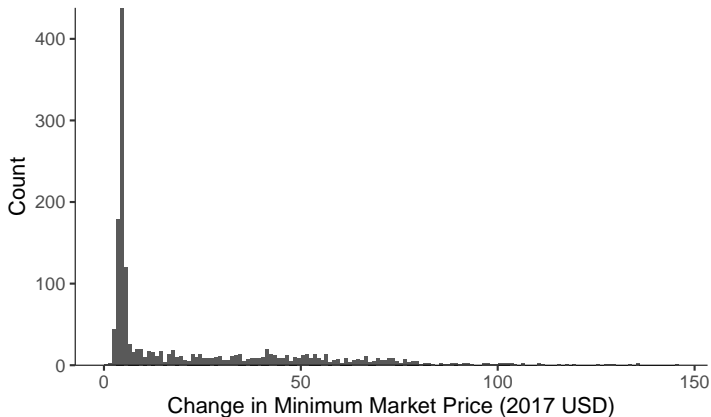
# Merger Simulation Results: Average Fare

## Lowest Marginal Cost
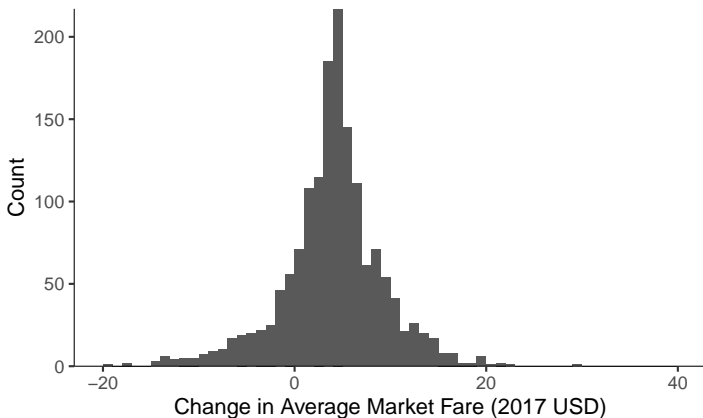
# Merger Simulation Results: Average Fare

## Average Marginal Cost
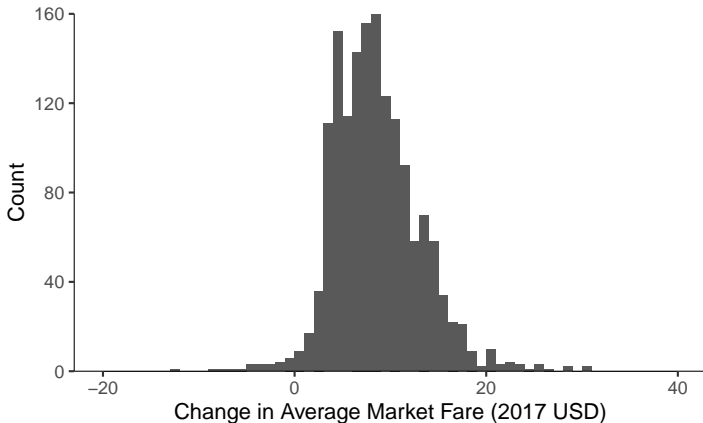
# Merger Simulation Results: Average Fare

## Greatest Marginal Cost
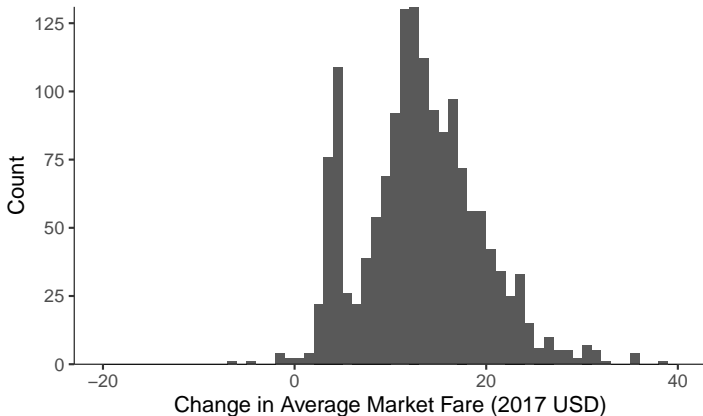
# Conclusion

- Minimum [Average] Market Fares in JetBlue-Spirit Markets Would have Increased by:
    - Best Case: 4.47 [3.90]
    - Average Case: 17.82 [8.51]
    - Worst Case: 22.80 [13.18]

- In the average JetBlue-Spirit market under the average cost scenario, customers would have paid $876,000 more following the merger.