The International JetBlue Effect: Affordable Luxury Takes Flight

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JetBlue entered transatlantic markets at comparable prices to competitors, which resulted in an increase in the total number of travelers rather than a reallocation of existing shares—a phenomenon we dub the international JetBlue effect. We estimate that JetBlue's entry into 13 transatlantic markets from its New York and Boston hubs has generated roughly $321 million per year in consumer surplus, with approximately 27% of the benefits accruing to the business class cabin. We simulate JetBlue's entry into 13 similar transatlantic markets and estimate that such entry would generate an additional $129 million per year in consumer surplus. We suspect that the international JetBlue effect could arise as other non-legacy US carriers expand into international markets, such as Alaska Airlines' planned expansion into Asia from its US West Coast hubs.

Keywords: airlines, international, product quality, premium products, affordable luxuries, new product launch, discrete choice

JEL Codes: L13, L93, M31, R41

I. INTRODUCTION

US consumer spending accounts for more than two-thirds of economic activity. In the second quarter of 2025, US household wealth reached record levels of $176.3 trillion due to a strong stock market and elevated home prices, a combination that fueled a 0.6% consumer spending increase in August 2025 (Mutikani, 2025). Increases in household wealth may lead some consumer to "trade up," a term used by Kapferer and Bastien (2009) to describe situations where consumers save money by purchasing less expensive goods in certain categories and splurge on other categories like luxury goods. Mundel et al. (2017) suggest that millennial consumers have especially strong desire to trade up or seek out "affordable luxuries."

The provision of premium products has led to higher consumer satisfaction ratings across a variety of US industries. In the grocery store industry, Trader Joe's has attracted a cult-like following by offering unique private label foods at competitive prices combined with exceptional customer service (Petro, 2025).[1] In the smartphone industry, Apple has achieved high customer satisfaction by providing a "high-end,

[1] See https://theacsi.org/industries/retail/supermarkets.

* The views expressed are those of the authors and should not be interpreted as the views of the US Federal Trade Commission.

fashionable, and innovative brand image" that has resonated with consumers (Han, 2025, p. 149).[2] In the airline industry, JetBlue's Mint product, which features fully lie-flat seats and a private suite on certain long-haul flights, has allowed it to outrank the likes of Delta, American, and United in the North American business class air travel segment.[3]

There is strong demand for affordable luxuries in the airline industry as traditionally leisure-focused airlines, including Southwest, JetBlue, and Alaska, have been shifting their business models in recent years to focus more on premium products. Even ultra-low-cost carriers Spirit and Frontier are now offering premium products, with Spirit offering a larger "Big Front Seat" in late 2024 and Frontier launching first-class seating in late 2025. For legacy carriers Delta and United, such premium products make up close to 50% of passenger fare revenues despite comprising only about 30% of available seats.[4] A long literature has recognized a dichotomy between business and leisure *travelers*—with leisure travelers being more price sensitive than business travelers—but there has been less attention paid to the economics of business and leisure *cabins*. Even less work has studied international travel likely due to data availability issues (Bilotkach, 2019) and only a handful of papers have taken up the study of international business travel.[5] Aryal et al. (2024) find on average that international passengers value first-class seats 58% more than economy seats, which may explain why airlines are offering more premium products.

In this paper, we examine how the introduction of a new premium product by JetBlue in the market for international business travel has influenced competitors' prices and consumer welfare. In August 2021, JetBlue entered the highly competitive transatlantic market between New York's John F. Kennedy International Airport (JFK) and London's Heathrow Airport (LHR) with a narrow-body, 138-seat Airbus A321LR aircraft equipped with 24 ultra-premium business class suites branded "Mint." This premium product features fully lie-flat seats rivaling legacy carriers' offerings in both quality and price. Table 1 shows the 13 transatlantic markets that JetBlue has entered since August 2021, where we use the symbol "↔" to indicate that the markets include flights in both directions. Notably, JetBlue entered these routes with Mint-equipped aircraft at the outset, which differs from JetBlue's US transcontinental rollout of Mint-equipped aircraft on routes it was previously serving without Mint-equipped aircraft (Rupp and Tan, 2025).[6]

[2] See https://theacsi.org/industries/manufacturing/cell-phones.
[3] See https://www.jdpower.com/business/press-releases/2025-north-america-airline-satisfaction-study.
[4] See 2024 Financial Results for Delta Air Lines and 2023Q3 Financial Results for United Airlines.
[5] Papers we are aware of studying international business class travel include Aryal et al. (2024) and Cristea (2011).
[6] For example, JetBlue began service between JFK and Los Angeles International Airport on June 17, 2009, using an Airbus A320 aircraft but transitioned to Mint-equipped Airbus A321 aircraft starting June 15, 2014. The Airbus A321LR has a range of approximately 4,000 nautical miles (4,600 statute miles). See https://aircraft.airbus.com/en/aircraft/a320-family/a321neo.

Table 1. JetBlue's Transatlantic Mint Entry Dates

Route	US city	EU city	Start date	Season
JFK ↔ LHR	New York	London	8/11/2021	Year-round
JFK ↔ LGW	New York	London	9/29/2021	Summer
BOS ↔ LGW	Boston	London	7/19/2022	Summer
BOS ↔ LHR	Boston	London	8/22/2022	Year-round
JFK ↔ CDG	New York	Paris	6/29/2023	Year-round
JFK ↔ AMS	New York	Amsterdam	8/29/2023	Year-round
BOS ↔ AMS	Boston	Amsterdam	9/20/2023	Summer
JFK ↔ DUB	New York	Dublin	3/13/2024	Summer
BOS ↔ DUB	Boston	Dublin	3/13/2024	Summer
BOS ↔ CDG	Boston	Paris	4/3/2024	Year-round
JFK ↔ EDI	New York	Edinburgh	5/22/2024	Summer
BOS ↔ EDI	Boston	Edinburgh	5/22/2025	Summer
BOS ↔ MAD	Boston	Madrid	5/22/2025	Summer

We document that JetBlue's entry into transatlantic markets resulted in an increase in the total number of passengers (*growing the pie*), rather than a reallocation of existing shares (*stealing market share*) from competitors, with little observable effect on competitors' prices. We dub this phenomenon the *international JetBlue effect*. JetBlue's position in the market for international air travel is atypical, as it is not a member of any of the three major international airline alliances and does not operate any wide-body aircraft.[7] As noted by Gillespie and Richard (2012), although roughly twenty airlines offer transatlantic flights, three groups of antitrust immunized carriers—one within each of the three major international alliances—combine to carry over 82% of traffic between the US and Europe. Because JetBlue is an outsider to these international alliances, JetBlue's entry does not appear to have had a large effect on competitors' prices.

We estimate that JetBlue's entry into the 13 transatlantic markets in Table 1 increased consumer surplus by roughly \$321 million per year. We also simulate the effect of JetBlue's hypothetical entry into 13 similar transatlantic markets and estimate that consumer surplus would rise by an additional \$129 million per year. We suspect that the international JetBlue effect could arise in other markets, such as Alaska Airlines' recently announced entry into transpacific markets from its hubs at Seattle–Tacoma International Airport and Honolulu International Airport.[8]

The rest of this paper is organized as follows. In Section II, we present a simple structural model of demand and supply for international air travel. In Section III, we discuss the data used to estimate the model. In Section IV, we describe the estimation and identification along with the estimation results for the demand model. In Section V, we explain how we use our model to perform counterfactual simulations to estimate

[7] See https://www.jetblue.com/flying-with-us/our-planes.
[8] See news.alaskaair.com/destinations/alaska-airlines-launches-new-era-of-widebody-international-flying-in-seattle.

the consumer surplus generated from JetBlue's entry into transatlantic markets and the consumer surplus that could be generated from JetBlue's expansion into not-yet-served transatlantic markets. Section VI provides concluding comments.

II. MODEL

In this section, we specify a model of demand and supply for international airline products that closely resembles the workhorse models of Berry, Carnall, and Spiller (1996, 2006) and Berry and Jia (2010). Products transport passengers directly from one airport to another within a market, defined as a nondirectional airport pair at a point in time (month). We use the symbol "↔" or the word "between" to distinguish nondirectionality and the symbol "→" or the word "to" to denote directionality. For example, within the market for flights between New York (JFK) and London (LHR)—which we denote JFK↔LHR—in June 2025, there are five available products: nonstop flights on British Airways, American Airlines, Delta Air Lines, Virgin Atlantic, and JetBlue. Travelers choose products based on the products' characteristics and the travelers' idiosyncratic preferences, which also applies to the outside option not to travel. Within each market, airline products, which are similar to each other, are grouped into one nest, and the outside option is grouped into another.

A. Demand

All potential international travelers i decide which product j to purchase from market t, and the utility the traveler receives from purchasing the product is $u_{ijt} = \delta_{jt} + \nu_{ijt}$, where δ_{jt} is the mean utility that all consumers receive from product j and ν_{ijt} is individual i's idiosyncratic preference for product j. To generate a nested logit model of demand with the two nests described above, we assume $\nu_{ijt} = \eta_{it} + (1 - \lambda)\varepsilon_{ijt}$, where ε_{ijt} is independent and identically distributed type-I extreme value, $\lambda \in (0,1)$, and η_{it} is distributed such that $\eta_{it} + (1 - \lambda)\varepsilon_{ijt}$ is distributed type-I extreme value (Cardell, 1997). To facilitate identification, we normalize the utility of the outside option $j = 0$ to $u_{i0t} = \varepsilon_{i0t}$. The mean utility from product j is a function of its characteristics, $\delta_{jt} = \alpha p_{jt} + \mathbf{x}'_{jt}\boldsymbol{\beta} + \xi_{jt}$, where p_{jt} is the price of the product, $\mathbf{x}_{jt}$ is a vector of the product's other observed characteristics, and ξ_{jt} is a characteristic of the product that the consumer sees when making a purchase yet is not observable to the researcher. The characteristics in $\mathbf{x}_{jt}$ are assumed to be exogenous, meaning they are uncorrelated with the characteristic ξ_{jt}, while p_{jt} is potentially endogenous, since the characteristic ξ_{jt} that the consumer observes in the product may allow it to command a higher price. One can think of ξ_{jt} as the product's underlying quality.

As shown by Berry (1994), the distributional assumption on the composite error term ν_{ijt} gives rise to the following linear regression model:

$$\ln s_{jt} - \ln s_{0t} = \alpha p_{jt} + \mathbf{x}'_{jt}\boldsymbol{\beta} + \lambda \ln \bar{s}_{jt} + \xi_{jt}$$

where s_{jt} is the market share of product j in market t, s_{0t} is the market share of the outside option $j = 0$ in market t, and $\bar{s}_{jt}$ is the market share of product j among the set of airline products in market t, $\bar{s}_{jt} = s_{jt}/\sum_k s_{kt}$ for airline products k in market t. Conditional on valid instruments, the model can be consistently estimated via two-stage least squares.

B. Supply

Consistent with previous literature, we assume prices are set according to a static Nash equilibrium with multiproduct firms and compute equilibrium markups from knowledge of the demand parameters. Following Yuan and Barwick (2024), we estimate the model sequentially—demand then supply—and not simultaneously. An airline's profit π_{jt} from selling product j in market t is

$$\pi_{jt} = (p_{jt} - c_{jt})q_{jt}$$

where p_{jt} is the price of product j in market t, c_{jt} is the marginal cost of selling product j in market t, $q_{jt} = s_{jt}M_t$ is the quantity of product j sold in market t, s_{jt} is product j's share in market t, and M_t is market t's exogenous size. From the first-order condition for profit maximization ($\partial\pi_{jt}/\partial p_{jt} = 0$),

$$c_{jt} = p_{jt} + s_{jt}\left(\frac{\partial s_{jt}}{\partial p_{jt}}\right)^{-1}$$

where the right-hand side can be interpreted as product j's price minus a markup. As shown by Berry (1994), the distributional assumption on the error term implies s_{jt} has the closed form

$$s_{jt} = \frac{\exp\left[\delta_{jt}/(1-\lambda)\right]}{D_t^{\lambda}\left(1 + D_t^{1-\lambda}\right)}$$

where $D_t = \sum_k \exp[\delta_{kt}/(1-\lambda)]$ for airline products k in market t, so marginal cost c_{jt} can be computed from the estimated demand parameters and the data. Following Berry and Jia (2010), we parameterize marginal cost as

$$c_{jt} = \mathbf{w}'_{jt}\boldsymbol{\psi} + \omega_{jt}$$

where $\mathbf{w}_{jt}$ is a vector of cost shifters for product j in market t and ω_{jt} is an unobserved cost shock.

III. DATA

Our primary source of data on product-level fares, passenger counts, and carriers is OAG's Traffic Analyser module.[9] We use T-100 to get product-level average daily frequency in each market.

A. Traffic Analyser

The Traffic Analyser data are derived from marketing information data transfer (MIDT) data supplied by Travelport, one of the three largest global distribution systems used by travel agencies to make flight reservations (Devriendt et al., 2004). Our sample includes the (near) universe of monthly passengers flying between the US and Europe from January 2013 through May 2025.[10] The average fare is computed by Travelport as total monthly revenue (excluding taxes) divided by total monthly passengers and is representative of tickets purchased through travel agencies.[11]

Most full-service airlines sell tickets for seats in one of three broad service classes: business, premium economy, and economy. Figure 1 shows a screenshot of service classes, fares, and amenities for a flight on British Airways from JFK to LHR. The standard economy class ticket includes a chosen seat with 30–31 inches of legroom (the industry standard), three bags (one personal item, one carry-on, and one checked), complimentary meals and drinks, and seatback entertainment.[12] The premium economy ticket is roughly 3½ times the price of the standard economy ticket, and includes a slightly wider seat with 38 inches of legroom in a separate section of the plane and an additional checked bag. The business class ticket is about five times the price of the standard economy class ticket, and includes two oversized checked bags, preflight airport lounge access, and a private seat that converts to a 6-foot lie-flat bed in a separate section of the plane.

Figure 2 shows a screenshot of service classes, fares, and amenities provided by JetBlue from JFK to LHR. Compared to the options for British Airways shown in Figure 1, Figure 2 shows there is less price differentiation between JetBlue's non–business class tickets. The standard economy class ticket ("Blue") includes a chosen seat with 32 inches of legroom (slightly more than the industry standard), three bags (one personal item, one carry-on, and one checked), complimentary meals and snacks, and seatback

[9] See https://knowledge.oag.com/docs/traffic.

[10] OAG uses proprietary algorithms and external reference data to adjust the raw passenger counts provided by Travelport and divides information from round-trip itineraries into directional bookings and fares (Dresner et al., 2021).

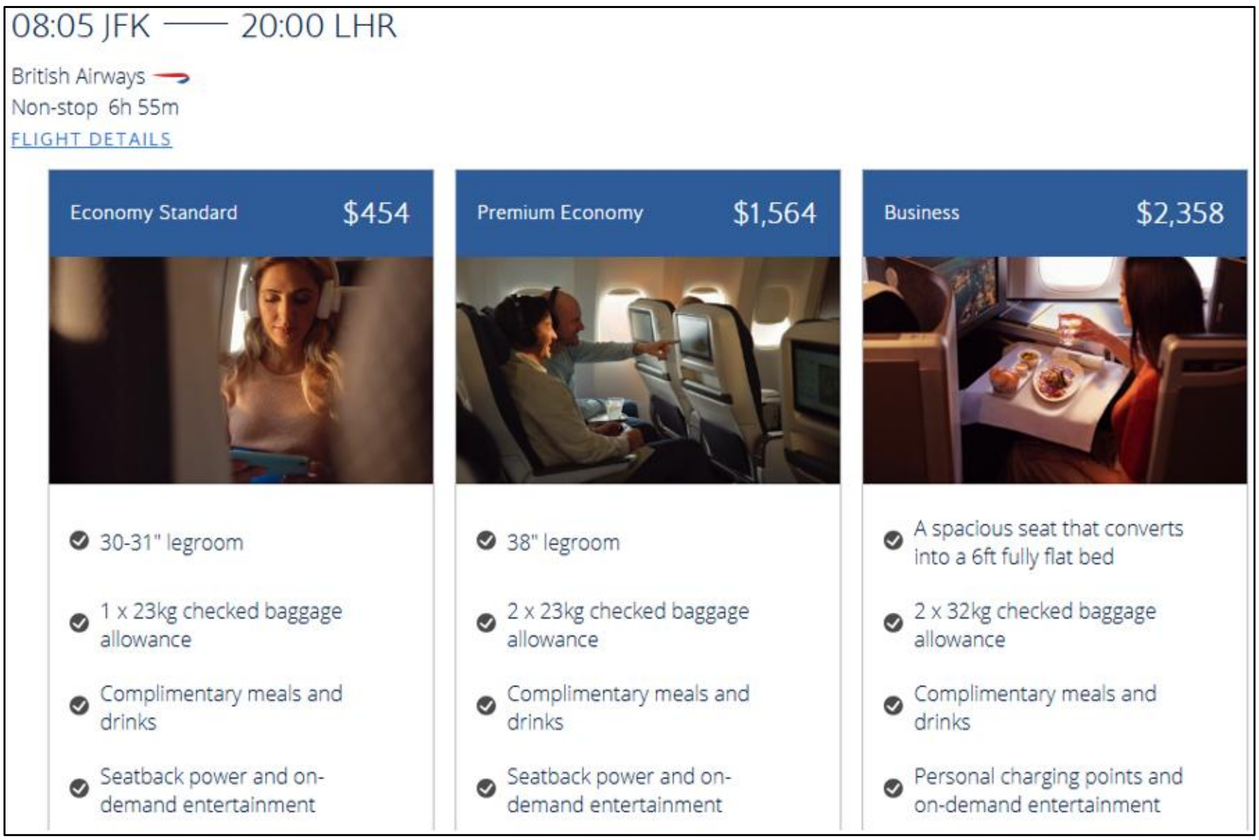
[11] According to our conversations with the data provider, tickets sold by travel agencies (such as Booking Holdings and Expedia Group) are representative of the universe of leisure and unmanaged business travel, excluding travel on airlines that primarily (or exclusively) sell direct, such as Southwest Airlines, Ryanair, easyJet, Norwegian Air, and Norse Atlantic Airways.

[12] A $234 basic economy fare (not shown) includes the same amenities as the standard economy fare except for seat selection and a checked bag.

entertainment.[13] The premium economy class ticket ("EvenMore") is only 30% more expensive than the standard economy class ticket and includes 38 inches of legroom but no additional checked bag or seat width.[14] The business class ticket ("Mint") is about five times the price of the standard economy ticket, and includes two checked bags, and a private seat that converts to a 6-foot-8-inch lie-flat bed in a separate section of the plane.

The Traffic Analyser data condenses booking classes (A–Z) into five service classes: first, business, premium economy, full economy, and discount economy. Although the International Air Transport Association (IATA) recommends a mapping from booking class to service class, most airlines apply a custom mapping. Among the five service classes available in the Traffic Analyser data, business class and discount economy appear to be the most consistently measured across carriers. We therefore restrict our analyses to business class, discount economy, and all cabins pooled.

Figure 1. Service Classes and Fares on British Airways from JFK to LHR



[13] JetBlue also offers a $100-cheaper "Blue Basic" fare, which excludes a checked bag and has more restrictions than the "Blue" fare, and a $25-more-expensive "Blue Extra" fare, which has slightly more perks and fewer restrictions than the "Blue" fare.

[14] "EvenMore" is sold as an add-on to the "Blue" standard economy fare, rather than as a separate product with its own fare.

Figure 2. Service Classes and Fares on JetBlue from JFK to LHR

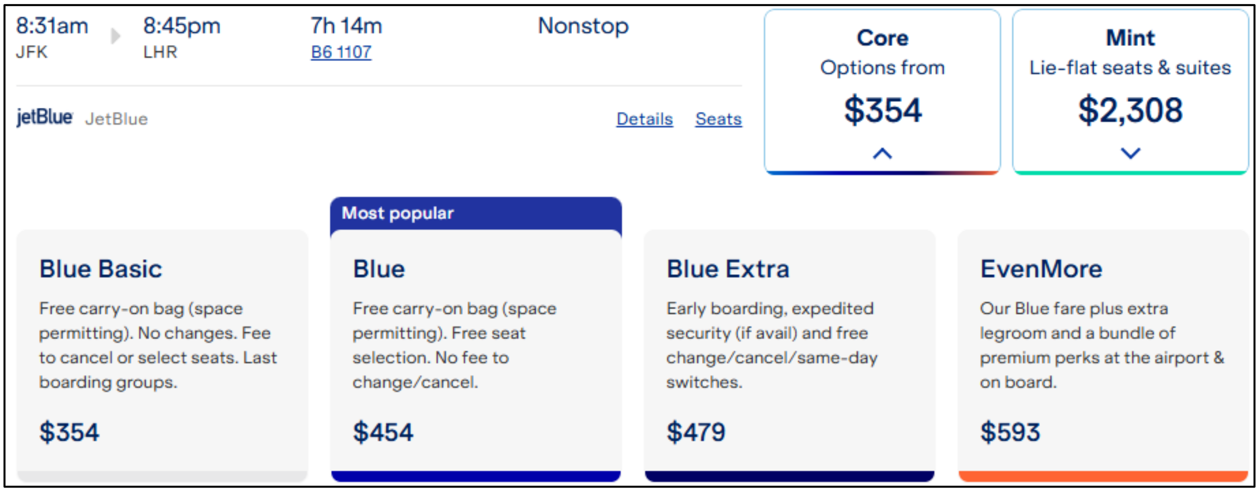


Figure 3 shows the trip cost breakdown for two one-way flights between JFK and LHR in JetBlue's Mint cabin. The left panel shows the base fare plus taxes and fees for the flight from JFK to LHR and the right panel shows the base fare plus taxes and fees for the flight from LHR to JFK. In addition to government-imposed taxes and fees, most international itineraries also include a *carrier-imposed fee*, which ostensibly covers the cost of airline fuel. According to guidance issued by IATA (IATA Industry Accounting Working Group, 2022, p. 8), fees that are assessed by the airline and received on its own account should be counted as revenue, while fees (or taxes) that are collected on behalf of third parties (such as the government) should be excluded from revenue, which clearly suggests that carrier-imposed fees should be counted as revenue. Our examination of the Traffic Analyser data, however, strongly suggests that JetBlue's data incorrectly excludes the carrier-imposed fee from business class revenue, resulting in much-lower-than-expected prices for JetBlue's Mint product compared to other carriers' business class offerings, despite the similarity of their all-in fare to other carriers (compare Figure 1 and Figure 2). We therefore add route-specific carrier-imposed fees, which range from approximately \$550 to \$1,025 one-way, to the fare reported in Traffic Analyser for the JetBlue business class cabin.[15]

Given the relatively small number of markets and products in our estimation sample (direct flights between the US and eight other countries), we manually collected taxes from airlines' websites and added them to the fares (revenue per passenger) reported in the OAG data to arrive at an all-in price that customers actually pay. Neglecting to include taxes in the price passengers pay would bias our counterfactual results *down*.[16] All international flights departing the US incur a flat \$33.00 in taxes paid to the US government

[15] Carrier-imposed fees are expressed in the local currency of the departing flight. As of October 1, 2025, currency exchange rates were approximately 1 pound sterling (£) to 1.35 US dollars (\$) and 1 euro (€) to 1.17 US dollars (\$).
[16] Neglecting to include taxes in the price passengers pay would make it appear that passengers are more sensitive to price than they actually are, which would bias the estimator for α away from zero (larger in magnitude), which in turn would bias the counterfactuals down because α appears in the denominator of the calculations (see Section V).

($5.60 US September 11th Security Fee, $22.90 US Transportation Tax, and $4.50 US Passenger Facility Charge; see the left panel of Figure 3) and all international flights arriving in the US incur a flat $41.13 in taxes paid to the US government ($22.90 US Transportation Tax, $3.84 US APHIS User Fee, $7.00 US Immigration User Fee, and $7.39 Customs User Fee; see the right panel of Figure 3, approximately multiplied by 1.35).[17] Additionally, each country imposes taxes on departing flights, which range from €20.39 (approximately $24) for an economy class flight departing Barcelona–El Prat Airport to £295.72 (approximately $400) for a business class flight departing LHR.

Figure 3. Trip Cost Breakdown for JetBlue Mint Flights between JFK and LHR

JFK to LHR

Air transport charges	**Adult**
Base fare	$1,250.00
Taxes, fees and charges	
U.S. September 11th Security Fee	$5.60
U.S. Transportation Tax	$22.90
U.S. Passenger Facility Charge	$4.50
Carrier Imposed Fee	$1,025.00
Total price	$2,308.00 x 1

LHR to JFK

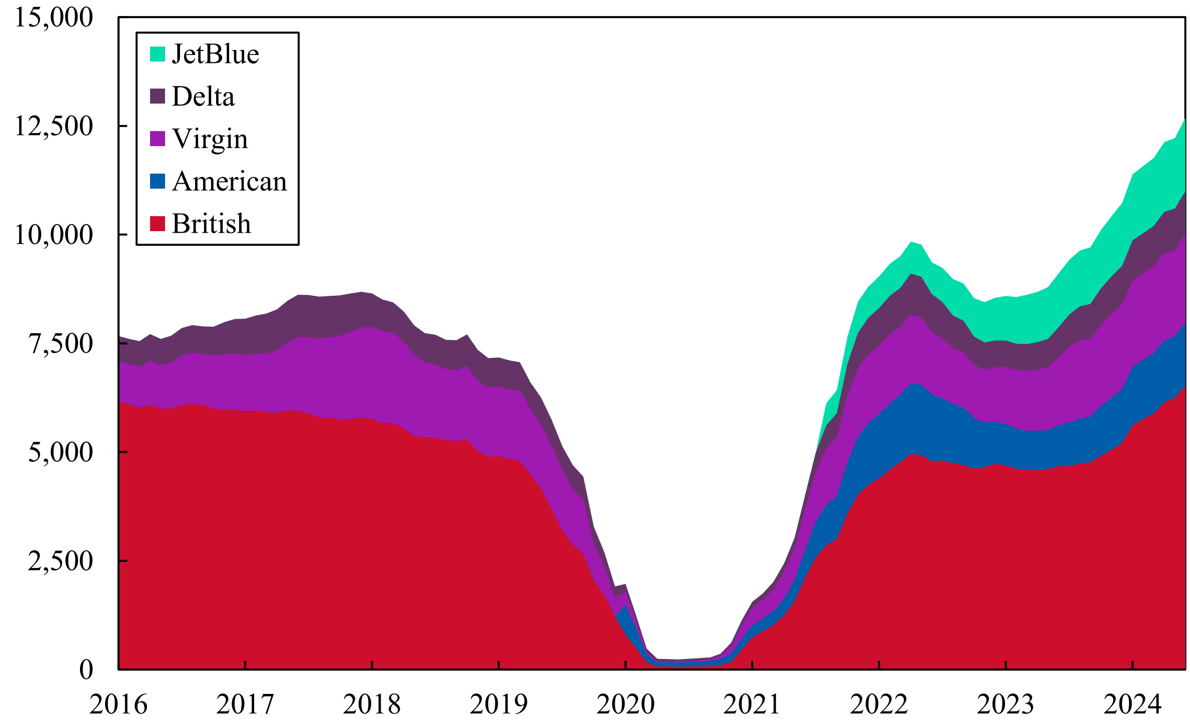
Air transport charges	**Adult**
Base fare	£1,175.00
Taxes, fees and charges	
Air Passenger Duty (APD) International	£244.00
Passenger Service Charge - International	£51.72
U.S. Transportation Tax	£17.00
U.S. APHIS User Fee	£2.90
U.S. Immigration User Fee	£5.20
U.S. Customs User Fee	£5.50
Carrier Imposed Fee	£450.00
Total price	£1,951.32 x 1

Figure 4 shows a stacked area graph of monthly business class passengers served by British, American, Virgin, Delta, and JetBlue in the JFK↔LHR market. Aside from the catastrophic decline in international

[17] See https://www.aphis.usda.gov/aqi/international-air-passenger-fee and https://www.cbp.gov/border-security/ports-entry/carriers/air-sea-passenger-user-fees-railroad-car-fee.

travel during the COVID-19 global pandemic, the carriers' passenger volumes have remained relatively stable. JetBlue entered the JFK↔LHR market in August 2021 and steadily gained passengers without noticeably decreasing the number of passengers flying on competitors. JetBlue's passenger count grew monotonically over time from about 500 monthly passengers to about 1,700 monthly passengers, equivalent to between 8% and 16% of competitors' total business class passengers.[18]

Figure 4. Monthly Business Class Passenger Counts in the JFK↔LHR Market

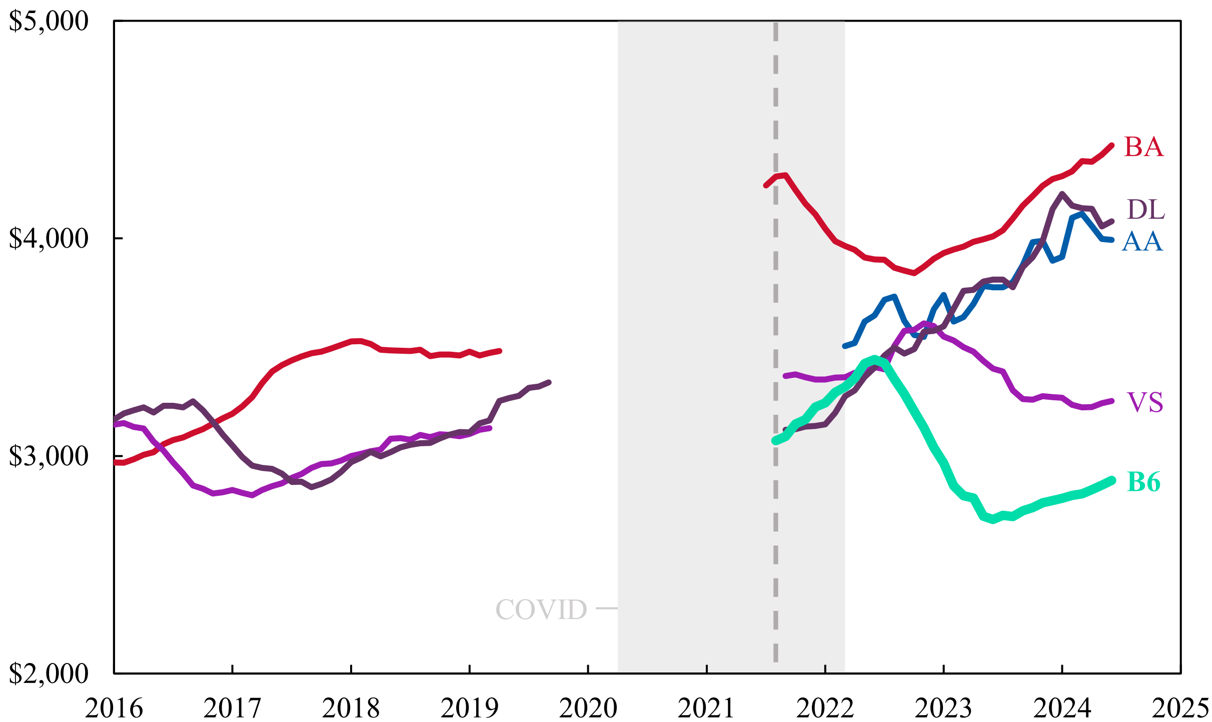


Notes: The data shown in the figure are moving averages of the current month and the next 11 months.

Figure 5 shows average monthly business class fares in the JFK↔LHR market, where fares during the COVID-19 pandemic have been obscured, taxes have been added to all carriers' fares, and carrier-imposed fees have been added to JetBlue's fares, as explained above. JetBlue's Mint fare is typically slightly lower than other carriers' business class fares, and it is not clear from the figure whether JetBlue's entry had a meaningful impact on competitors' fares.

[18] At launch, JetBlue offered one daily round trip between JFK and LHR using an Airbus A321LR with 24 Mint seats, which translates to roughly 1,440 = 1 × 2 × 24 × 30 monthly Mint seats. In April 2023, JetBlue increased its daily frequency to two round trips, which translates to roughly 2,880 monthly Mint seats.

Figure 5. Average Business Class Fares in the JFK↔LHR Market



Notes: The data shown in the figure are moving averages of the current month and the next 11 months. Airline abbreviations are BA = British Airways, DL = Delta Air Lines, AA = American Airlines, VS = Virgin Atlantic, and B6 = JetBlue.

B. Estimation Sample

Our sample period includes monthly data from January 2013 through May 2025. To construct our estimation sample, we start with the 13 markets shown in Table 1 where JetBlue entered. With an eye toward counterfactuals, we also considered a handful of European cities within the Airbus A321LR's range of approximately 4,600 miles from JFK or Boston Logan International Airport (BOS) that are "similar" to the cities JetBlue has already entered, which we consider as candidate markets for future JetBlue entry. To assess market similarity, we considered all European cities within the Global Financial Centres Index's recent rankings of global and established international "broad and deep" financial centers (Wardle and Mainelli, 2024, Table 7), which includes Berlin, Frankfurt, Geneva, Hamburg, Luxembourg, Milan, Munich, Rome, Stuttgart, and Zurich, and we included Barcelona because JetBlue already serves Madrid. We also include direct flights from Newark Liberty International Airport (EWR) to all actual and candidate cities for JetBlue entry, since flights from EWR—particularly, from United Airlines—could provide competitive pressure to carriers flying out of JFK (Drukker and Winston, 2023).[19]

[19] We exclude flights to and from LaGuardia Airport because it does not have any transatlantic flights.

Figure 6. Airports Included in the Estimation Sample

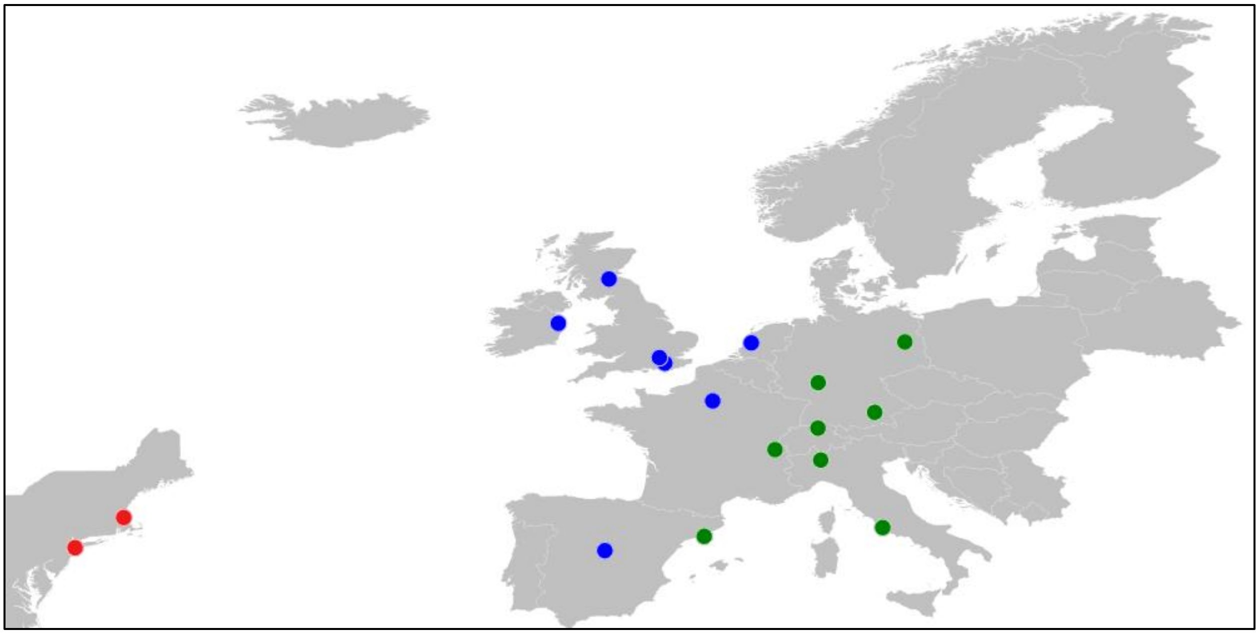


Figure 6 shows a map of European countries (plus Iceland) within 4,600 miles of JFK and the airports included in our estimation sample. Red dots represent JFK (and EWR) and BOS, blue dots represent airports currently served by JetBlue out of JFK or BOS, and green dots represent airports we assume that JetBlue could serve based on the range of the A321LR and the cities' similarity to those JetBlue currently serves. We exclude from our estimation sample airport pairs that do not currently have any direct flights, which eliminates several candidate cities from the Global Financial Centres Index. The US Federal Aviation Administration requires international flights to carry enough fuel to reach the destination plus enough fuel to fly 45 minutes longer at normal cruising speed.[20] The longest route in our estimation sample—JFK to Rome Fiumicino Airport (FCO)—is approximately 4,277 miles. At the A321LR's advertised cruising speed of 515 miles per hour (386 miles per 45 minutes), a JetBlue flight departing JFK for FCO would require a range of approximately 4,663 miles, a touch outside the A321LR's range of 4,600 miles. Notably, JetBlue currently has on order 13 Airbus A321XLR, with an extended range of 4,700 nautical miles (5,400 statute miles), which could easily reach FCO and other, farther-away transatlantic destinations.[21]

[20] See 14 *C.F.R.* § 121.639 (Fuel supply: All domestic operations).

[21] See https://ir.jetblue.com/news/news-details/2019/JetBlue-Orders-13-Airbus-A321XLR-Aircraft-to-Support-Its-Focus-City-Strategy-with-Transatlantic-Flying-06-20-2019/default.aspx.

IV. ESTIMATION, IDENTIFICATION, AND RESULTS

In this section, we explain how we specify and estimate the model, and discuss identification. We present estimation results at the end of this section before moving to counterfactuals in Section V.

A. Estimation and Identification

We are interested in estimating demand and supply parameters so that we can predict how market shares and prices would change when we alter products and product characteristics for the counterfactuals in the next section. Recall from Section II that the distributional assumption on individuals' idiosyncratic tastes for products, ν_{ijt}, implies market shares have the closed form

$$s_{jt} = \frac{\exp\left[\delta_{jt}/(1-\lambda)\right]}{D_t^{\lambda}\left(1 + D_t^{1-\lambda}\right)}$$

where $\delta_{jt} = \alpha p_{jt} + \mathbf{x}_{jt}'\boldsymbol{\beta} + \xi_{jt}$, and D_t is a function of λ and δ_{kt} for all airline products k in market t. The first step in the procedure is to estimate demand parameters λ, α, and $\boldsymbol{\beta}$, which in turn will tell us how s_{jt} responds to changes in the data. To estimate the parameters λ, α, and $\boldsymbol{\beta}$, we take the natural log of the equation for s_{jt} and rearrange to get

$$\ln s_{jt} - \ln s_{0t} = \alpha p_{jt} + \mathbf{x}_{jt}'\boldsymbol{\beta} + \lambda \ln \bar{s}_{jt} + \xi_{jt}$$

The parameters can be consistently estimated using two-stage least squares conditional on valid instruments. Recall that p_{jt} is potentially endogenous because consumers might observe a product's underlying quality ξ_{jt} that we as researchers do not observe. The inside-goods share term, $\ln \bar{s}_{jt}$, is endogenous because it is mechanically related to the dependent variable through s_{jt}.

We include a handful of key product characteristics and fixed effects in $\mathbf{x}_{jt}$, which we assume are exogenous. We include a variable for product j's monthly average flight frequency and, following Yuan and Barwick (2024) and Aguirregabiria and Ho (2012), assume airlines enter a market and set frequency before travelers observe ξ_{jt}, so flight frequency is exogenous from a demand perspective. We include airline fixed effects to capture market-invariant characteristics that make particular carriers more or less attractive, such as baggage fees, availability of in-flight entertainment, frequent flyer programs, and friendliness of the crew. We include year-month fixed effects to capture unobserved factors that make all markets more or less attractive at a point in time, such as seasonality, macroeconomic fluctuations, or major world events. Lastly, we include route fixed effects to capture time-invariant factors that make a particular route more or less attractive, such as the flight distance (or time), language differences between the origin and destination countries, or whether the airports are in cities that are global business hubs.

Exogenous characteristics in $\mathbf{x}_{jt}$ act as their own instruments. Combining insights from Yuan and Barwick (2024) and Ciliberto, Murry, and Tamer (2021), we include competitors' flight frequency as is, without summing or averaging, as an instrument for one's own price p_{jt}, since competitors' flight frequency is exogenous (unrelated to own-product quality ξ_{jt}) and correlated with own-product price p_{jt} (better characteristics of competitors imply more price competition). Following Berry and Jia (2010) and subsequent literature, we include the number of airlines serving a market as an instrument for the inside-goods share term $\ln \bar{s}_{jt}$, since the number of products is arguably exogenous (unrelated to own-product quality ξ_{jt}) and correlated with market shares conditional on being an inside good (more products in the market imply smaller shares for each airline).

Because markets are non-directional and demand for international flights can derive from residents of both the origin (leaving for a trip) and the destination (returning from a trip), we follow previous literature and define market size as the geometric mean of the metropolitan populations of the endpoint cities.

After recovering estimates of the demand parameters λ, α, and $\boldsymbol{\beta}$, we turn to estimation of marginal costs and markups, which are unobserved. Recall from Section II.B that the profit-maximization and conduct assumptions imply marginal cost for product j is a function of observed prices and market shares:

$$c_{jt} = p_{jt} + s_{jt}\left(\frac{\partial s_{jt}}{\partial p_{jt}}\right)^{-1}$$

Prices and shares, p_{jt} and s_{jt}, are observed in the data, and the derivative has a closed form (Berry, 1994; Mansley et al., 2019) that depends on observed shares and estimated demand parameters

$$\frac{\partial s_j}{\partial p_j} = \frac{\alpha}{1-\lambda} s_{jt}\left[1 - \lambda \bar{s}_{jt} - (1-\lambda) s_{jt}\right]$$

After recovering marginal costs from the data and markup equation, following previous literature, we parameterize marginal cost as

$$c_{jt} = \mathbf{w}_{jt}'\boldsymbol{\psi} + \omega_{jt}$$

We include a handful of key cost shifters and fixed effects in $\mathbf{w}_{jt}$, which we assume are exogenous. Following Yuan and Barwick (2024), we include product j's monthly average flight frequency and flight distance, since offering a higher frequency and flying a longer distance are both more costly for the airline. We include airline fixed effects to capture market-invariant factors that make particular carriers more or less costly to operate, such as fleet homogeneity and fuel-hedging strategies. We include month fixed effects to capture seasonality that makes all markets more or less costly to operate during a particular month each year. Lastly, we include route fixed effects to capture time invariant factors that make a particular route more or less costly to operate, such as hub presence or taxes imposed at the endpoint airports. Following Yuan and Barwick (2024), we estimate the marginal cost parameters using ordinary least squares after recovering the value of c_{jt}.

B. Results

Table 2 presents estimation results for the demand model for three different groups: business class, discount economy, and all cabins pooled. All product characteristics except for price are the same between the three groups (i.e., frequency, fixed effects). Market size M_t also is the same for each group.[22]

Table 2. Demand Model Estimates

	Business class	Discount economy	All cabins pooled
Fare ($100)	–0.051***	–0.120	–0.120**
	(0.019)	(0.131)	(0.060)
Frequency (daily)	0.322***	0.324***	0.369***
	(0.050)	(0.045)	(0.042)
Log inside goods share	0.360***	0.121	0.226***
	(0.132)	(0.077)	(0.080)
Observations	7,987	8,543	8,545
Clusters	94	110	110

Notes: All regressions include carrier, market, and year-month fixed effects. Standard errors clustered at the carrier-route level are shown in parentheses. Statistical significance is indicated at the ***1 percent , **5 percent, and *10 percent levels.

As expected, business class passengers have the lowest price sensitivity (smallest fare coefficient in absolute value) and discount economy passengers are most price sensitive (although not statistically significant), with the average passenger (all cabins pooled) sandwiched between these two extremes.[23] Both business class and discount economy value higher frequency at roughly the same level, although higher-class cabins value frequency more per dollar (i.e., similar magnitudes of frequency coefficients, smaller magnitude of fare coefficient for business cabin). The nesting parameter rises with service class, suggesting business class passengers view the airlines' various business class offerings as more similar to each other

[22] In the spirit of Zhang (2024), we experimented with different market sizes for different cabin classes but the results did not meaningfully change.

[23] Own-price elasticities of demand are not particularly useful for comparing price sensitivity across cabins because of the very large price differences between the three cabins, which drives the elasticity calculation. Recall that own-price elasticity of demand can be written $\partial s_{jt}/\partial p_{jt} \cdot p_{jt}/s_{jt} = p_{jt}\alpha(1-\lambda)^{-1}\left[1-\lambda\bar{s}_{jt}-(1-\lambda)s_{jt}\right]$. Shares s_{jt} and parameter estimates α and λ between the three cabins are relatively similar, but the prices p_{jt} differ substantially (see Figure 1), which makes business class passengers appear the most elastic and discount economy passengers appear the least elastic.

than discount economy passengers view the similarity of the airlines' discount economy offerings (Train, 2009; Mansley et al., 2019).

We discuss goodness-of-fit for the supply model in Section V.B in the context of JetBlue's counterfactual entry into new markets and its model-predicted price.

V. COUNTERFACTUALS

In this section we use our estimated model from the previous section to analyze the consumer surplus generated by JetBlue's actual entry into transatlantic markets and counterfactual entry into new transatlantic markets. We decompose JetBlue's entry into two main effects. First, there is a "pure entry" effect representing the change in consumer surplus from the addition of JetBlue as an option. Second, there is a "price" effect representing the additional consumer surplus gained from competitors lowering their prices in response to JetBlue's entry. We sequentially apply the estimated model to decompose consumer surplus into these two components.

As shown by Small and Rosen (1981) and de Jong et al. (2005, 2007), individual i's expected consumer surplus (less an unrecoverable constant) from a choice set c in market t can be written

$$E(CS_{itc}) = -\frac{1}{\alpha}\ln\left\{1+\left[\sum_k \exp\left(\frac{\delta_{kt}}{1-\lambda}\right)\right]^{1-\lambda}\right\} = -\frac{1}{\alpha}\ln\left(1+D_t^{1-\lambda}\right)$$

where the summation is taken over all airline products k in market t. JetBlue's pure entry effect is captured by the addition of JetBlue's δ_{jt} to the summation in the equation above. The price effect is captured by the change in competitors' δ_{jt}—namely, their price decrease—after JetBlue enters. Mechanically, if market demand is downward sloping, the addition of JetBlue to the choice set, which represents a rightward shift in the market supply curve, must decrease prices and increase consumer surplus—that is, consumers cannot be made worse off from the addition of a new product. Recall that the addition of a new product into the market changes competitors' shares through the equation

$$s_{jt} = \frac{\exp\left[\delta_{jt}/(1-\lambda)\right]}{D_t^{\lambda}\left(1+D_t^{1-\lambda}\right)}$$

and the change in prices from the addition of a new product comes from recomputing the markup

$$p_{jt} = c_{jt} - s_{jt}\left(\frac{\partial s_{jt}}{\partial p_{jt}}\right)^{-1}$$

and assuming competitors' marginal costs c_{jt} are unaffected by JetBlue's entry.

After computing individual i's expected consumer surplus for the "pre" and "post" JetBlue choice sets, we calculate the difference between the post and pre values, multiply by the market size M_t, and take the monthly average for months JetBlue operated during January 2024–May 2025. To get an annual estimate of consumer surplus for JetBlue's entry into a route, we multiply this monthly average number by 12 for year-round routes and by 7 for summer-only routes.[24]

A. JetBlue's Actual Entry

We start by computing the consumer surplus from JetBlue's actual entry into the 13 transatlantic markets shown in Table 1. Note that the observed data include both the pure entry effect and the price effect, so to compute the consumer surplus from JetBlue's entry into these markets we need to remove both the entry and price effects. After computing consumer surplus from the observed data (the post-JetBlue choice set), we perform the following calculations to determine the consumer surplus from the pre-JetBlue choice set:

1. Remove JetBlue's δ_{jt} from the choice set.
2. Recompute s_{jt} for the remaining airlines.
3. Recompute markups $-s_{jt}\left(\partial s_{jt}/\partial p_{jt}\right)^{-1}$ for the remaining airlines.
4. Recompute prices p_{jt} for the remaining airlines using the recomputed markups.
5. Recompute δ_{jt} for the remaining airlines using the recomputed prices.
6. Compute consumer surplus using the recomputed δ_{jt} for the remaining airlines.
7. Subtract consumer surplus computed in Step 6 from consumer surplus computed using the observed data (total effect).
8. Add JetBlue's δ_{jt} back into the choice set and recompute consumer surplus.
9. Subtract consumer surplus computed in Step 6 from consumer surplus computed in Step 8 (pure entry effect).

Table 3 shows the estimated annual consumer surplus from JetBlue's entry into the 13 transatlantic markets shown in Table 1. The total estimated annual consumer surplus from JetBlue's entry into these markets is $321 million, of which about $86 million (27%) accrues to the business class cabin. For context, Maillebiau and Hansen (1995) find that the initial international air travel liberalization of the 1970s between the US and the United Kingdom, France, Germany, Italy, and the Netherlands resulted in $13.3 billion (2025 dollars) in annual gains to travelers driven by decreased fares and increased capacity. More recently, Winston and Yan (2015) find that Open Skies agreements between the US and 11 countries—including the

[24] IATA's "Calendar of Coordination Activities" defines the summer season as beginning the last Sunday of March and ending the last Saturday of October, which is approximately 7 months.

United Kingdom, Spain, Italy, Germany, Ireland, and the Netherlands—have generated an additional $6 billion (2025 dollars) in annual gains to travelers.

The top panel of Table 3 shows the consumer surplus from routes involving JFK and the bottom panel shows consumer surplus from routes involving BOS. Within each panel, the values are sorted from highest to lowest consumer surplus accruing to the business class cabin. Unsurprisingly, JetBlue's entry had the largest impact on consumer surplus in the JFK↔LHR market, one of the busiest international routes in the world and one where JetBlue offers two flights per day year-round. In the four largest business class markets (JFK/BOS↔LHR/CDG), consumer surplus accruing to the business cabin accounts for between 27% and 44% of the total, despite the business class cabin accounting for only about 17% of the available seats.[25] JetBlue's pure entry effect dominates the price effect in all markets, accounting for about 90% of the total effect of JetBlue's entry. That is, the primary benefit to consumers from JetBlue's entry into transatlantic markets is consumers' ability to choose an attractive new product (e.g., Mint) and not competitors' price responses to competitive pressure from JetBlue. In contrast, Petrin (2002) found that for the introduction of the Dodge Caravan minivan to the US automobile market in the 1980s, about 57% of the consumer surplus accrued to minivan purchasers, who had strong tastes for its characteristics, and 43% of the consumer surplus accrued to non-minivan purchasers, who benefited from increased price competition.

Table 3. Annual Consumer Surplus from JetBlue's Observed Entry

		All cabins			Business class	
Route	EU city	Total	Entry	Price	Total	Share of all cabins
JFK ↔ LHR	London	64.4	59.6	4.8	28.4	0.44
JFK ↔ CDG	Paris	34.6	31.3	3.3	9.2	0.27
JFK ↔ AMS	Amsterdam	32.8	29.4	3.5	5.5	0.17
JFK ↔ LGW	London	23.6	23.6	--	5.5	0.23
JFK ↔ EDI	Edinburgh	23.1	19.9	3.2	4.9	0.21
JFK ↔ DUB	Dublin	26.0	22.7	3.3	3.8	0.15
BOS ↔ LHR	London	26.2	24.3	1.9	9.6	0.37
BOS ↔ CDG	Paris	24.7	22.1	2.6	8.6	0.35
BOS ↔ DUB	Dublin	21.8	19.0	2.8	3.1	0.14
BOS ↔ LGW	London	17.8	17.8	--	2.6	0.15
BOS ↔ AMS	Amsterdam	12.5	10.8	1.7	2.6	0.21
BOS ↔ MAD	Madrid	6.3	4.9	1.4	1.1	0.17
BOS ↔ EDI	Edinburgh	6.9	5.5	1.4	0.6	0.09
Total		320.7	290.9	29.9	85.5	0.27

Notes: Units are millions of dollars per year.

[25] JetBlue's typical seat configuration for the Airbus A321LR employed on its transatlantic routes is 24 Mint seats and 114 economy class seats.

B. JetBlue's Counterfactual Entry

We now consider JetBlue's counterfactual entry into new markets. As noted in Section III.B, we considered a handful of European cities within the A321LR's range of approximately 4,600 from JFK or BOS that are similar to the cities JetBlue currently serves. In contrast to Section V.A, the observed data is the pre-JetBlue choice set rather than the post-JetBlue choice set. Consequently, the process of calculating consumer surplus from JetBlue's entry is similar to the process used in Section V.A but with a few extra steps. After computing consumer surplus from the observed data (the pre-JetBlue choice set), we perform the following calculations to determine consumer surplus from the post-JetBlue choice set:

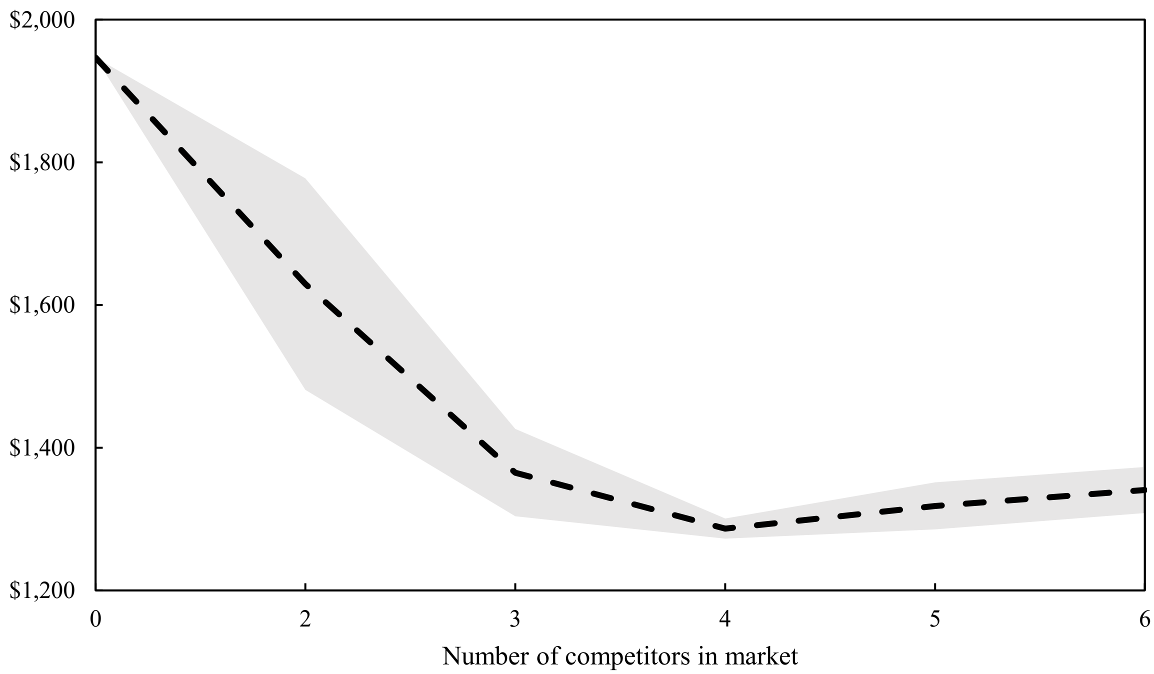
1. Estimate the demand model and store the values of the relevant characteristics for JetBlue's δ_{jt}.
2. Estimate the supply model and store the values of the relevant cost-shifters for JetBlue's $\mathbf{w}'_{jt}\boldsymbol{\psi}$.
3. Use the stored values to estimate JetBlue's marginal costs and markups in observed markets.
4. Store the values of JetBlue's average markups by the number of competitors in a market.
5. Use the stored values of $\mathbf{w}'_{jt}\boldsymbol{\psi}$ to predict JetBlue's marginal costs in counterfactual markets.
6. Compute JetBlue's predicted price in the counterfactual markets using its predicted marginal cost in these markets plus its average markup from observed markets.
7. Compute JetBlue's δ_{jt} for the counterfactual markets using its predicted prices.
8. Compute consumer surplus using competitors' observed δ_{jt} and JetBlue's counterfactual δ_{jt}.
9. Subtract consumer surplus computed in Step 8 from consumer surplus computed using the observed data (pure entry effect).
10. Compute counterfactual market shares s_{jt} and markups $-s_{jt}\left(\partial s_{jt}/\partial p_{jt}\right)^{-1}$ for all competitors.
11. Recompute prices p_{jt} for all competitors.
12. Recompute δ_{jt} for all competitors using the recomputed prices.
13. Compute consumer surplus using competitors' recomputed δ_{jt} and JetBlue's counterfactual δ_{jt}.
14. Subtract consumer surplus computed in Step 13 from consumer surplus computed using the observed data (total effect).

A key to estimating consumer surplus from JetBlue's counterfactual entry is accurately constructing the characteristics in δ_{jt} for the counterfactual JetBlue products. Recall from Section IV.A that

$$
\begin{aligned}
\delta_{jt} &= \alpha p_{jt} + \mathbf{x}_{jt}'\boldsymbol{\beta} + \xi_{jt} \\
&= \alpha(\overbrace{\underbrace{\psi_0 \text{distance}_t + \psi_1 \text{frequency}_{jt} + \textbf{month}_t'\boldsymbol{\psi}_2 + \textbf{airline}_j'\boldsymbol{\psi}_3 + \textbf{route}_t'\boldsymbol{\psi}_4}_{\mathbf{w}_{jt}'\boldsymbol{\psi}} + \omega_{jt}}^{c_{jt}} + b_{jt}) + \\
&\quad + \underbrace{\beta_1 \text{frequency}_{jt} + \textbf{year-month}_t'\boldsymbol{\beta}_2 + \textbf{airline}_j'\boldsymbol{\beta}_3 + \textbf{route}_t'\boldsymbol{\beta}_4}_{\mathbf{x}_{jt}'\boldsymbol{\beta}} + \xi_{jt}
\end{aligned}
$$

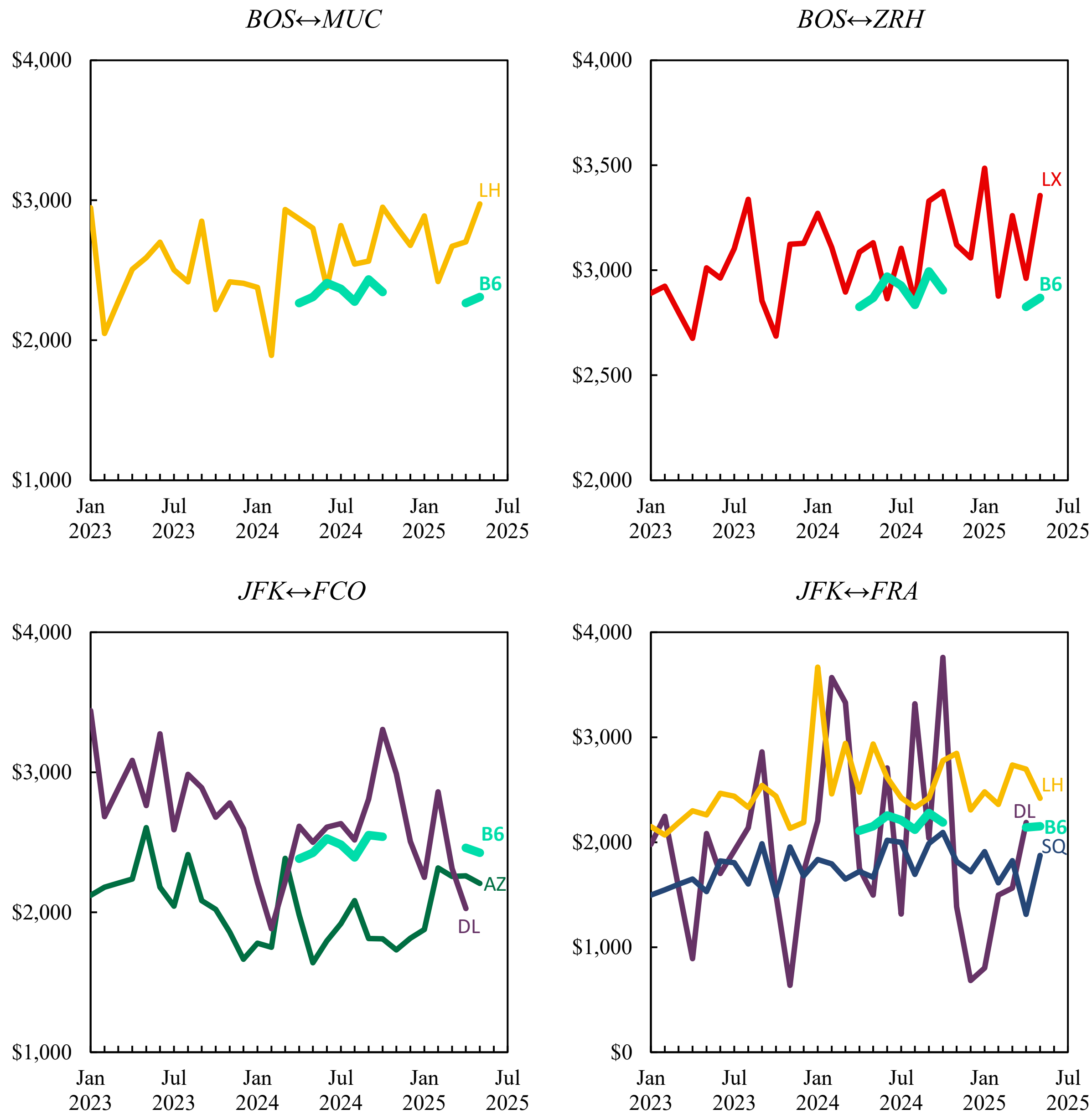
where we've explicitly written out the characteristics in $\mathbf{w}_{jt}$ and $\mathbf{x}_{jt}$: distance_t is the distance between the endpoint airports in market t, frequency_{jt} is the daily frequency of product j in market t, $\textbf{month}_t$ is a vector of dummies for each calendar month, $\textbf{year-month}_t$ is a vector of dummies for each year-month, $\textbf{airline}_j$ is a vector of dummies for each airline, and $\textbf{route}_t$ is a vector of dummies for each endpoint airport pair. For simplicity, we've expressed the markup term as a constant b_{jt} that only depends on the number of products in market t, rather than as a (complicated) function of shares s_{jt}. Figure 7 shows the mean model-predicted markup for JetBlue's Mint product in markets that it already serves. It is reassuring to see that JetBlue's predicted markups fall as the number of competitors in the market increases. The tight band (one standard deviation) around JetBlue's mean model-predicted markup in markets it already serves suggests JetBlue's markups would be similar in markets it does not currently serve.

Figure 7. JetBlue's Predicted Business Class Markups in Transatlantic Markets It Already Serves



Notes: The dashed line shows JetBlue's mean model-predicted markup and the gray shading shows one standard deviation of JetBlue's model-predicted markup in transatlantic markets served by JetBlue alongside the number of competitors shown on the horizontal axis.

Figure 8. JetBlue's Predicted Mint Fares versus Incumbents' Observed Business Class Fares



Notes: Abbreviations are BOS = Boston, JFK = New York, MUC = Munich, ZRH = Zurich, FCO = Rome, FRA = Frankfurt, B6 = JetBlue, LH = Lufthansa, LX = SWISS, DL = Delta Air Lines, AZ = ITA Airways, and SQ = Singapore Airlines.

The demand and supply estimation procedures produce estimates of $\boldsymbol{\beta}$ and $\boldsymbol{\psi}$, and most characteristics in $\mathbf{x}_{jt}$ and $\mathbf{w}_{jt}$ can be reasonably assumed or are directly observable for JetBlue, even in markets it does not currently serve: distance$_t$ is time- and carrier-invariant and easily computable for any route; $\mathbf{month}_t'\boldsymbol{\psi}_2$ and $\mathbf{year\text{-}month}_t'\boldsymbol{\beta}_2$ are carrier- and route-invariant and are identified because at least one carrier serves a route at every month and year-month in the sample; $\mathbf{airline}_j'\boldsymbol{\psi}_3$ and $\mathbf{airline}_j'\boldsymbol{\beta}_3$ are time- and route-invariant and are identified for JetBlue because JetBlue serves some markets in the sample; $\mathbf{route}_t'\boldsymbol{\psi}_4$ and $\mathbf{route}_t'\boldsymbol{\beta}_4$ which are time- and carrier-invariant and are identified because at least one carrier serves all routes in the sample. Consistent with JetBlue's recent entry behavior into transatlantic markets, we assume JetBlue would serve all counterfactual markets with one daily flight ($\text{frequency}_{jt} = 1$) during the summer season only.[26] We assume $\xi_{jt} = \omega_{jt} = 0$ for counterfactual JetBlue products because ξ_{jt} and ω_{jt} are by definition unobservable and their estimates have by construction a mean of zero.

Figure 8 shows JetBlue's model-predicted Mint fares compared to incumbent carriers' observed business class fares in several markets not currently served by JetBlue. The model seems to do well in predicting JetBlue's fares in counterfactual markets: The predicted JetBlue fares are typically below incumbents' fares but of the same magnitude, which is consistent with fare patterns observed in transatlantic markets that JetBlue entered (see, e.g., Figure 5).

Table 4. Annual Consumer Surplus from JetBlue's Counterfactual Entry

		All cabins			Business class	
Route	EU city	Total	Entry	Price	Total	Share of all cabins
JFK ↔ GVA	Geneva	14.7	12.6	2.0	3.3	0.22
JFK ↔ MXP	Milan	12.7	11.3	1.3	2.4	0.19
JFK ↔ ZRH	Zurich	15.8	14.2	1.5	2.4	0.15
JFK ↔ BCN	Barcelona	12.0	10.7	1.3	2.1	0.18
JFK ↔ FCO	Rome	11.2	10.2	1.0	2.0	0.18
JFK ↔ MAD	Madrid	11.0	10.3	0.7	1.3	0.12
JFK ↔ BER	Berlin	4.8	3.8	0.9	0.9	0.19
JFK ↔ FRA	Frankfurt	6.4	5.4	1.0	0.9	0.14
JFK ↔ MUC	Munich	11.9	11.1	0.8	1.0	0.08
BOS ↔ ZRH	Zurich	7.8	6.0	1.8	2.0	0.26
BOS ↔ FRA	Frankfurt	7.8	6.3	1.5	1.4	0.18
BOS ↔ FCO	Rome	6.9	5.9	0.9	1.1	0.16
BOS ↔ MUC	Munich	5.8	4.5	1.3	0.9	0.16
Total		128.8	112.3	16.0	21.7	0.17

Notes: Units are millions of dollars per year. Service is assumed to be offered in the summer season only (April–October).

Table 4 shows the estimated annual consumer surplus from JetBlue's counterfactual entry into 13 new transatlantic markets. The total estimated annual consumer surplus from JetBlue's counterfactual entry into

[26] If JetBlue instead entered these counterfactual markets year-round and with a higher frequency then our estimated consumer surplus from JetBlue's entry would be higher.

these markets with summer-only service is $129 million, of which about $22 million (17%) accrues to the business class cabin. As in Table 3, the top panel of Table 4 shows the consumer surplus from routes involving JFK and the bottom panel shows consumer surplus from routes involving BOS, and within each panel the values are sorted from highest to lowest consumer surplus accruing to the business class cabin. In all counterfactual markets, JetBlue's pure entry effect dominates the price effect, accounting for about 87% of the total effect of JetBlue's entry. In other words, as is the case in transatlantic markets that JetBlue has already entered, the primary benefit to consumers from JetBlue's entry into new transatlantic markets would likely come from consumers' ability to choose an attractive new product and not from incumbents meaningfully lowering prices in response to new competitive pressure from JetBlue.

The estimates shown in Table 4 are reassuring for several reasons. First, almost every estimate of consumer surplus in Table 4 is less than the estimates of consumer surplus in Table 3, suggesting JetBlue is not systematically making suboptimal entry decisions: JetBlue seems to have initially entered markets that offer the highest value for consumers.[27] Second, JetBlue has entered markets with the highest value to business class customers (compare business class share of all cabins in Tables 3 and 4), which coincidentally are also the highest-revenue customers. Third, as shown in Figure 6, the counterfactual markets in Table 4 are farther from JetBlue's hubs at JFK and BOS, suggesting JetBlue chose to enter lower-cost (i.e., shorter-distance) routes first.

VI. CONCLUSION

Economists have long been interested in studying the ability of low-cost competitors to put downward pricing pressure on incumbents. Morrison (2001) and Vowles (2001) discovered the "Southwest Effect" in the early 2000s, finding that legacy incumbent carriers like American, Delta, and United significantly lowered their prices in response to Southwest's entry. More recently, Shrago (2024) found that the presence of Spirit Airlines on a route was correlated with incumbent competitors significantly lowering their low-end fares (but not their high-end fares) in response to Spirit's aggressive, ultra-low-cost pricing strategy, a phenomenon he termed the "Spirit Effect." The existing literature has mostly focused on coach fares, presumably because most seats on a plane are devoted to economy seats. Legacy carriers have experienced

[27] The exception is BOS↔MAD and BOS↔EDI, which Table 3 suggests are lower-value routes than BOS↔ZRH and BOS↔FRA (see Table 4). But note that the estimates for BOS↔MAD and BOS↔EDI are based on 9 days of data (May 22–30, 2025), so their annualized value (i.e., estimate for May 2025 multiplied by 7) could be overstated if the May 2025 fixed effect is higher than the average of the summer-season fixed effects for January 2024–May 2025 (the relevant period for the counterfactual entry events).

growing demand for premium cabins, but there has been a dearth of research on this increasingly important segment of the airline industry.[28]

This paper turns the focus on JetBlue and their premium cabin offering on transatlantic flights. We find that JetBlue's entry into transatlantic business class markets increased the total number of business class passengers (*growing the pie*) rather than a reallocation of existing shares (*stealing market share*) from competitors. We estimate that JetBlue's entry into transatlantic markets has generated $321 million in annual consumer surplus, with the bulk of this consumer surplus being attributed to consumers' ability to choose a new product rather than competitors lowering prices in response to JetBlue's entry.

Other US airlines have begun to shift their attention to expanding their route networks overseas. Alaska Airlines is reallocating widebody aircraft acquired in their merger with Hawaiian Airlines to connect their Seattle hub with Asian markets, starting with Tokyo's Narita International Airport and Seoul's Incheon International Airport.[29] Meanwhile, Southwest Airlines recently established partnerships with international carriers, including Icelandair, China Airlines, and EVA Air.[30] These interline agreements would allow Southwest passengers to travel to Asia and Europe through one of Southwest's gateway airports and better compete against airlines in one of the three major global alliances. Future work should investigate how entry by Alaska and Southwest into transpacific markets compares with JetBlue's foray into transatlantic markets.

[28] Delta's recent order of Airbus A321neo planes will be configured with 44 recliners in first class, 54 extra-legroom seats in premium economy, and only 66 standard economy seats; see https://thepointsguy.com/airline/delta-air-lines-wild-new-airbus-a321neo-configuration.

[29] See news.alaskaair.com/destinations/alaska-airlines-launches-new-era-of-widebody-international-flying-in-seattle.

[30] https://www.southwest.com/customer-enhancements/airline-partnerships.

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