Evolution of Transatlantic Competition & Air Transportation Regulatory Liberalization

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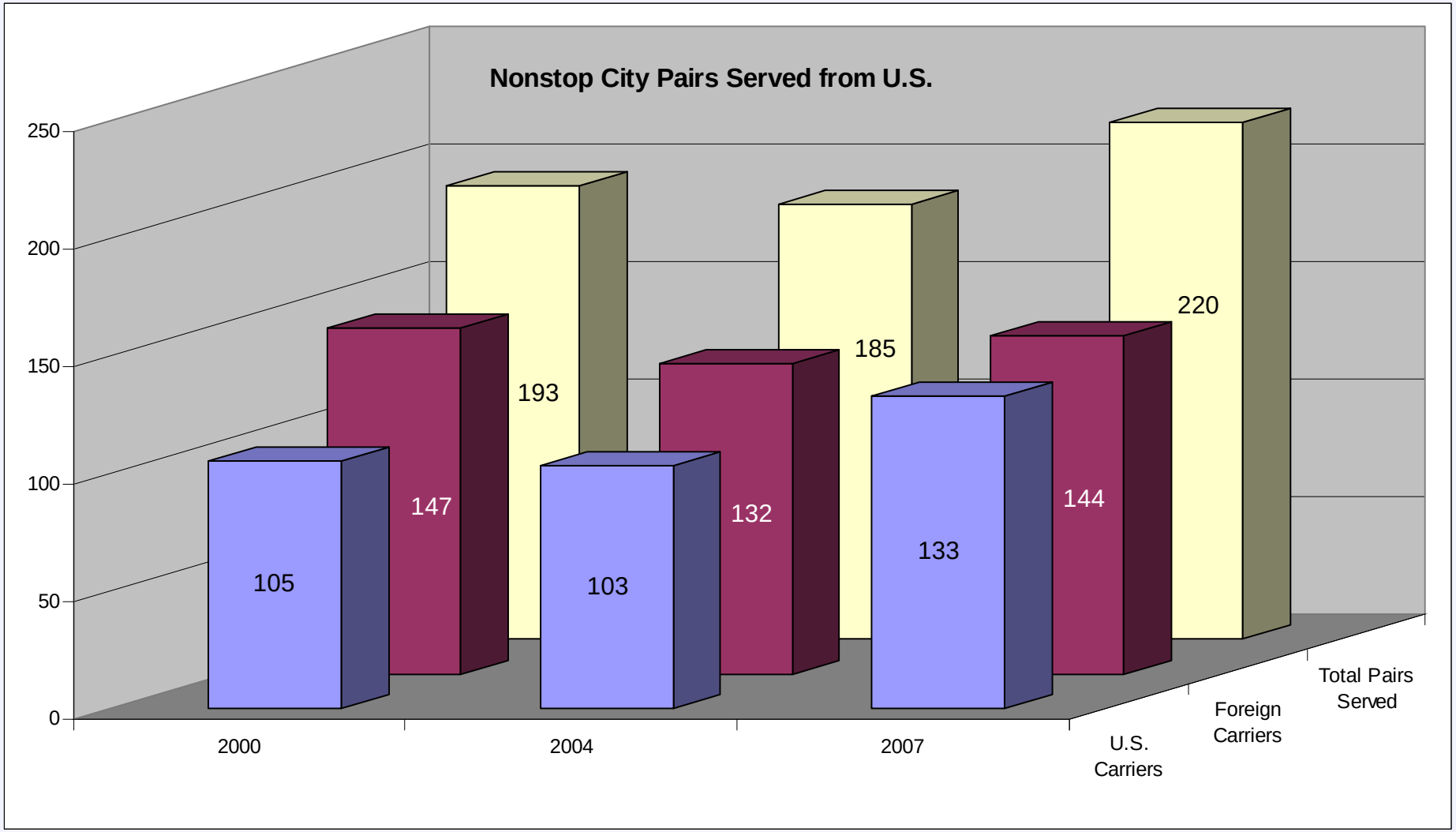
Outline

1. Transatlantic Landscape since 2000
2. Transatlantic Airline Competition
3. Regulation and Changes Following Policy Events
4. Econometric Market Analysis: Preliminary Results
5. Conclusions

U.S. and Europe are Increasingly Connected



Data Source: U.S. DOT T-100 International Segment Data

Cities Have Received First Transatlantic Service since 2000

Belfast, UK
Edinburgh, UK
Liverpool, UK
Connaught, Ireland
Malaga, Spain
Belgrade, Serbia
Rzeszow, Poland
Riga, Latvia

Berlin, Germany
Hamburg, Germany
Cologne, Germany

Bologna, Italy
Pisa, Italy
Naples, Italy
Palermo, Italy

Research Questions

- What has driven these changes? Specifically, how has regulation and/or liberalization played a role?
- How has the competitive environment in the transatlantic aviation market evolved over the last decade?
- Has transatlantic liberalization led to increased service or competition? Alternatively, has it led to losses for some cities?

Research Approach

- Stakeholder Analysis
- Analysis 1: Transatlantic Competition
  - Recent evolution of transatlantic competition
  - U.S. DOT Data: service offerings, frequencies, a/c size
- Analysis 2: Impacts of Policy Changes
  - Transatlantic Open Skies Agreements
  - Granting of Antitrust Immunity
- Analysis 3: Econometric Market Model
  - Aggregate U.S. city and European city service levels
  - Correspondence with Policy Changes

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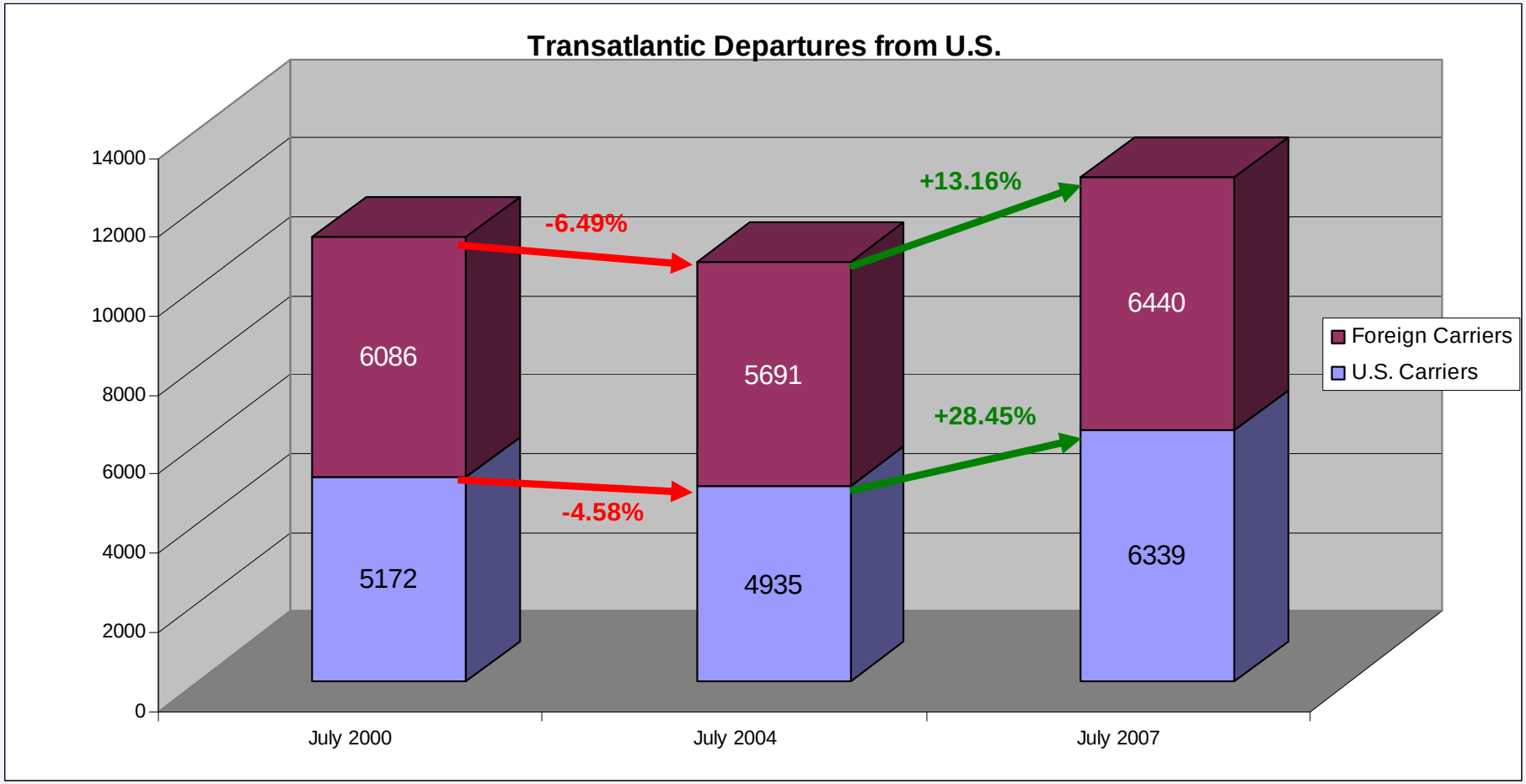
U.S. carriers have gained a disproportionate share of transatlantic departures



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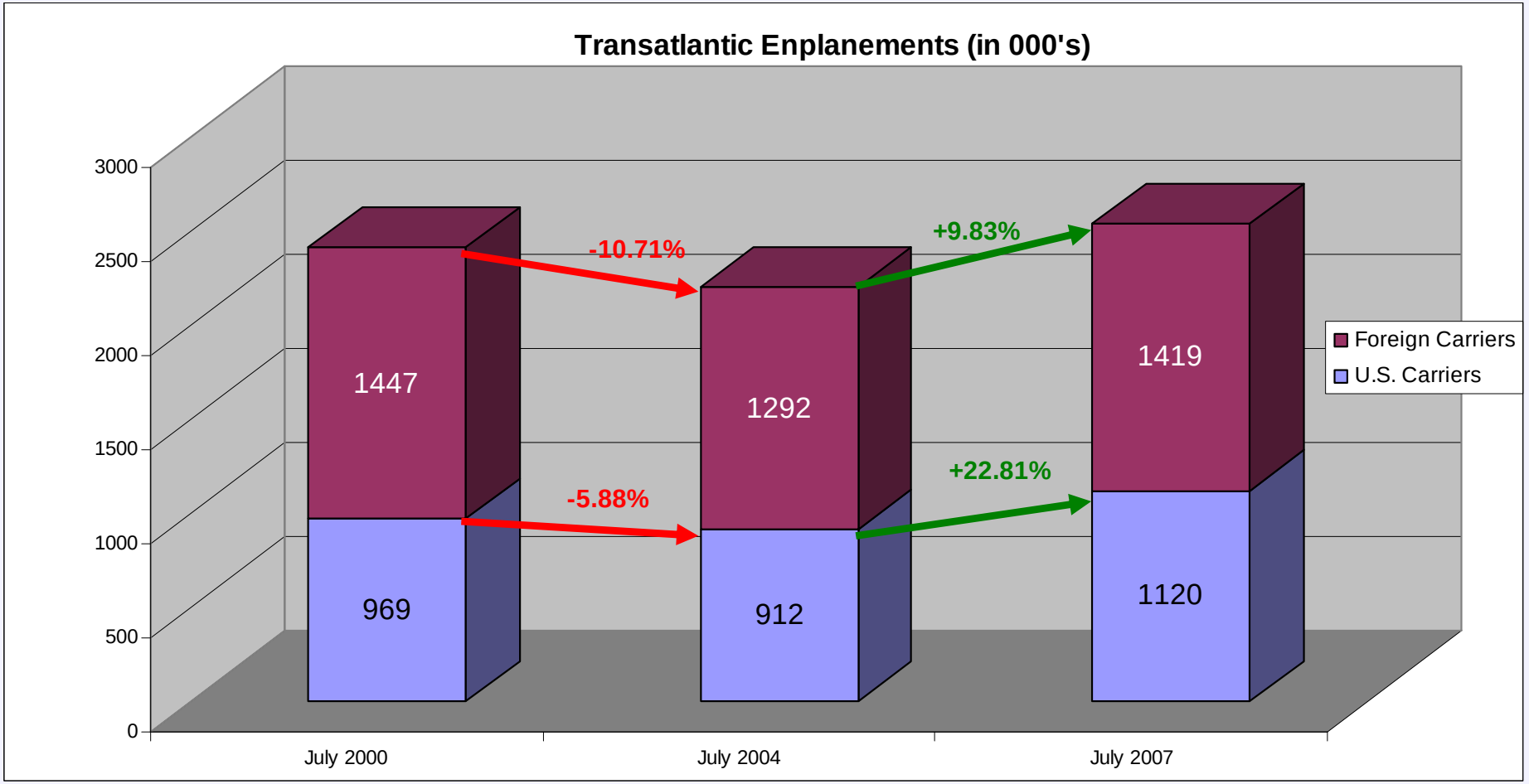
But U.S. carriers continue to enplane fewer passengers



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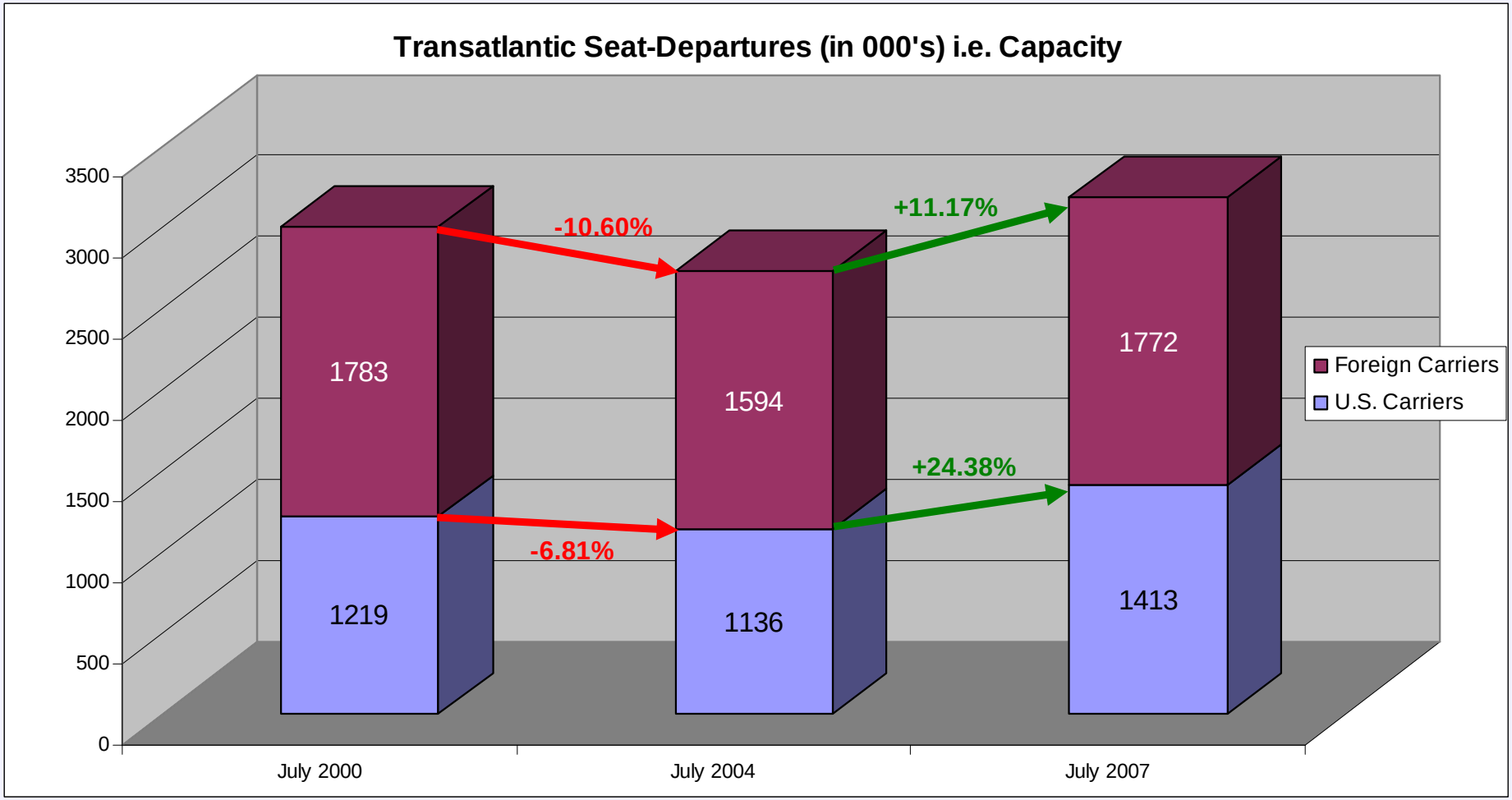
Foreign Capacity has Outpaced U.S. Capacity



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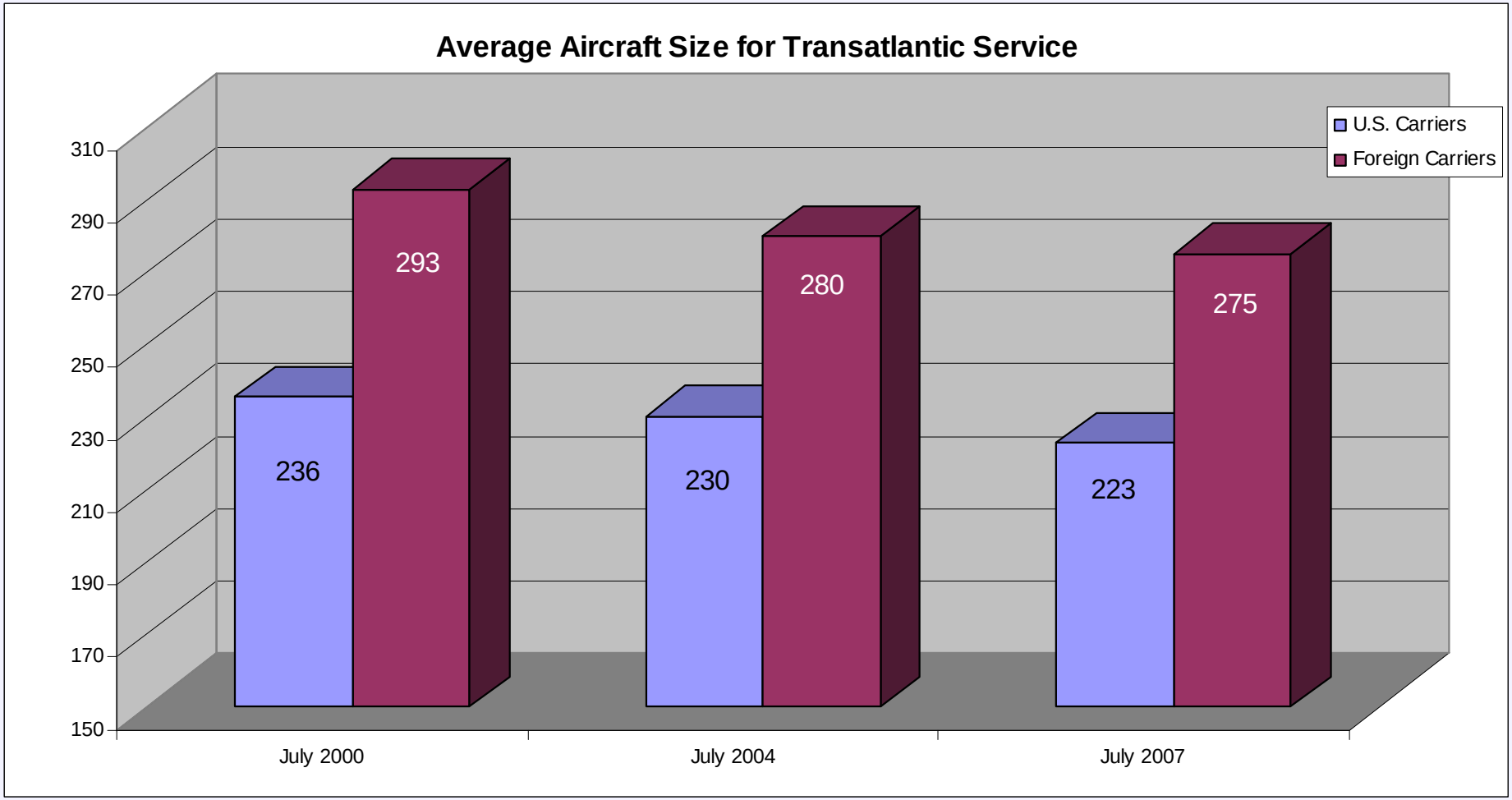
Average transatlantic aircraft size has decreased, U.S. carriers use smaller aircraft



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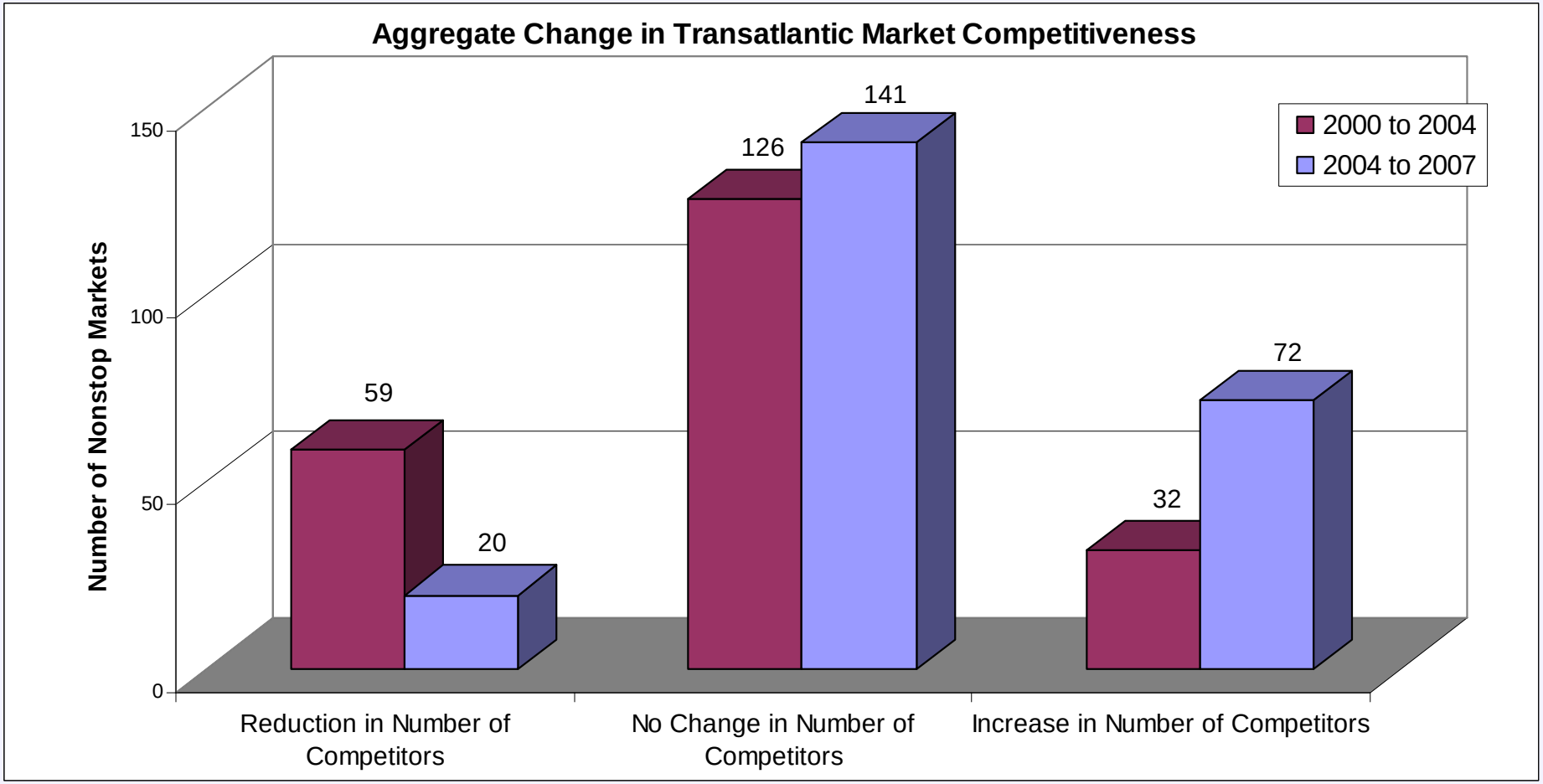
Market competition has been increasing in aggregate since 2000



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U.S.-EU Open Skies Agreement

- On April 30, 2007 EU and U.S. authorities signed a first stage Open Skies accord
  - Allows EU airlines to operate direct flights between U.S. and any EU country (and some others)
  - Allows U.S. airlines reciprocal right, and ability to fly between cities in different EU countries
  - Elimination of the nationality clause

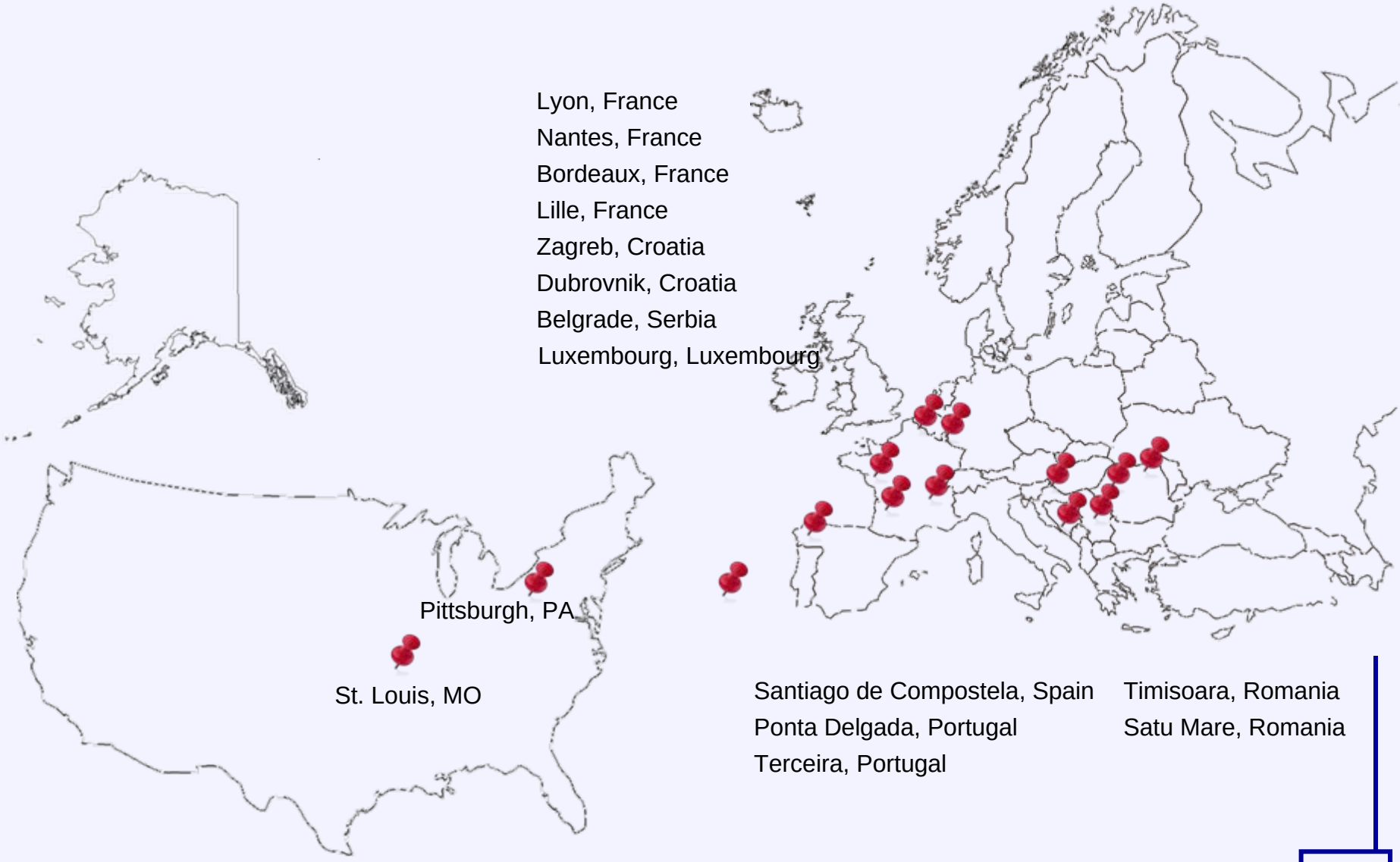
- EU officials have made liberalized foreign control a prerequisite for a 2nd Stage agreement
  1. Match EU's 49% foreign control restriction
  2. U.S. domestic market lucrative as standalone and hub-feeder
     - Cabotage rights only granted to U.S. citizen airlines
     - U.S. incorporation requires meeting ownership caps
     - Without control, network composition cannot be shaped

U.S.-European Open Skies Agreements

Year	Open Skies Signatory	Service Change
1992	Netherlands; 1st U.S. Open Skies Agreement	Increase in departures, increase in O-D pairs (all to AMS) and increase in number of competitors
1995	Belgium, Finland, Denmark, Norway, Sweden, Luxembourg, Austria, Iceland, Switzerland, Czech Republic	All except Iceland and Czech Republic saw either: 1) Reduction in number of departures 2) Reduction in number of competitors 3) Reduction in number of O-D pairs
1996	Germany	Increase in departures and O-D pairs, no change in number of competitors
1998	Romania and Italy	Both saw increase in O-D pairs, competitors, departures
1999	Portugal	Reduction in O-D pairs, increase in competitors and departures
2000	Slovak Republic, Turkey and Malta	Only Turkey saw addition of service following agreement
2001	Poland and France	Reduction in service to France, no change in Polish service
2003	Albania	No addition of service
2005	Bosnia and Herzegovina	No addition of service
2008	U.S.-EU Open Skies: Bulgaria, Cyprus, Estonia, Greece, Hungary, Ireland, Latvia, Lithuania, Slovenia, Spain, UK	Only Ireland and Spain have seen a >5% increase in number of departures UK has seen an increase to LHR No addition of intra-Europe service by U.S. carriers
2008	Croatia separately in 2008	All service to Croatia lost prior to 2008, no addition since

Source: U.S. Department of State, Bureau of Economic, Energy and Business Affairs

Many Open Skies Countries Have Lost Transatlantic Service since 1990

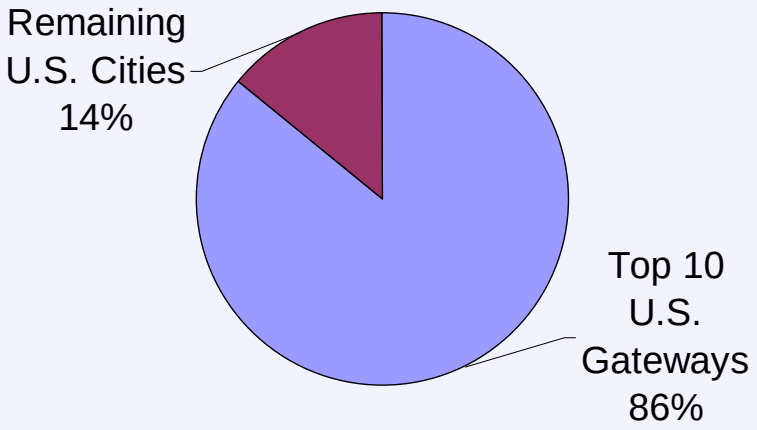


U.S. Gateways are Highly Concentrated

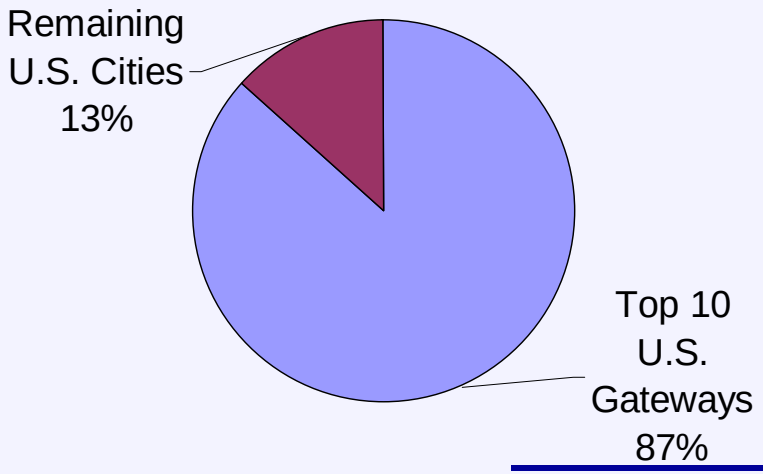
Top 10 U.S. Gateways (pax)

1. New York, NY
2. Chicago, IL
3. Washington, DC
4. Los Angeles, CA
5. Atlanta, GA
6. Boston, MA
7. Philadelphia, PA
8. San Francisco, CA
9. Miami, FL
10. Detroit, MI

U.S. Gateways: Share of Transatlantic Passengers Enplaned



U.S. Gateways: Share of Transatlantic Departures

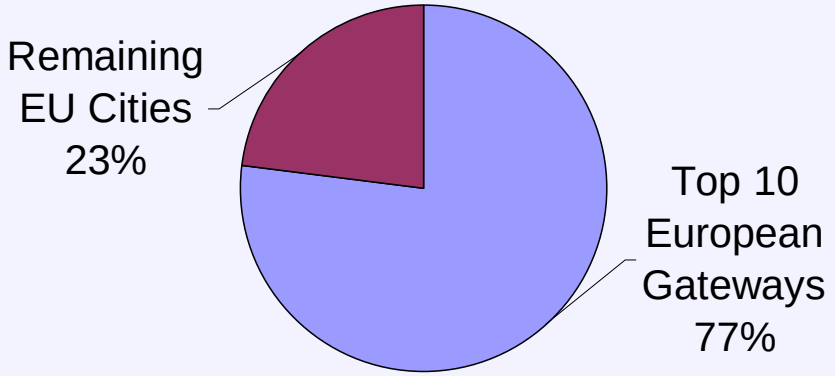


EU Gateways are Less Concentrated

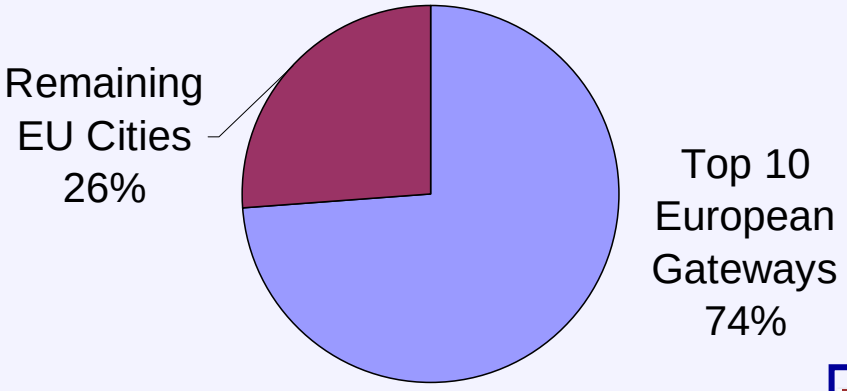
Top 10 EU Gateways (pax)

1. London, United Kingdom
2. Frankfurt, Germany
3. Paris, France
4. Amsterdam, Netherlands
5. Rome, Italy
6. Munich, Germany
7. Madrid, Spain
8. Dublin, Ireland
9. Zurich, Switzerland
10. Manchester, United Kingdom

EU Gateways: Share of Transatlantic Passengers Enplaned



EU Gateways: Share of Transatlantic Departures



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Econometric Market Analysis

Currently specifying econometric model using T-100 International Segment Data that

1) Explains the level of transatlantic service in U.S. cities
   - Number of Transatlantic Destinations, Departures, Carriers, and Passengers

   Using the following explanatory variables
   - Population, GDP of Region, Distance
   - Whether the city serves as a hub to a transatlantic carrier

2) Does the same for European markets
   - Including whether an Open Skies Agreement is in place

3) Explores whether regulatory policies explain discrepancies in service levels

Preliminary Results

- For U.S. markets
  - Population, economic presence, and distance correlate very strongly with level of service
  - Whether the city serves as a hub has insignificant explanatory power

- For European markets
  - Population, economic presence, and distance have very weak explanatory power
  - Existence of an Open Skies agreement does not have significant correlation to service level to the U.S.
  - In contrast, whether the city serves as a hub for a Big3 carrier is the dominant factor in explaining level of service

Conclusions

1. Liberalization has yielded both increases and decreases in service since 1990
   - No statistically significant correlation between existence of an Open Skies Agreement and service levels to that country

2. Existence of Big3 hubs do more to explain transatlantic service levels of various cities than the size, economic power of those cities, proximity to the U.S. or even the presence of an Open Skies agreement

3. U.S. carriers are capturing a disproportionate share of new service by leveraging the network effects from their hubs, much like the European model

4. As competition has increased: U.S. cities that have gained nonstop transatlantic service have been connected to Big3 European hubs, and vice versa