Origin and Destination Survey (DB1B)

3/31/14
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Airline Origin and Destination Survey Databank 1B (DB1B)

• DB1B has a 10% random sample of airline passenger tickets
• **Frequency**: Quarterly
• **Range**: 1993—Present
• **Source**: TranStats, US Department of Transportation, Bureau of Transportation Statistics: [http://www.transtats.bts.gov/TableInfo.asp?DB_ID=125](http://www.transtats.bts.gov/TableInfo.asp?DB_ID=125)
Three Data-bases

(1) **Coupon** – operating carrier, origin airport, destination airport, number of passengers, fare class, coupon type, trip break indicator.

(2) **Market** – directional market characteristics: origin airport, destination airport, prorated airfare, number of coupons.

(3) **Ticket** – individual – summary characteristics of each itinerary including: reporting carrier, origin/destination, prorated airfare, number of market coupons)
Relationship

Ticket (e.g. Roundtrip)

Markets

Coupons
# Contents

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<tr>
<th>Itin ID</th>
<th>Market ID</th>
<th>Year</th>
<th>Quarter</th>
<th>Sequence No.</th>
<th>Coupons</th>
<th>No. of Pax</th>
<th>Fare Class</th>
<th>Market Fare</th>
<th>Roundtrip Fare</th>
<th>Distance</th>
<th>Origin</th>
<th>Destination</th>
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Market fare is prorated Roundtrip Fare
Contents and Relationships

DB1BCoupon Database

DB1BMarket Table

DB1BTicket Table
Fare Class

- **C** Unrestricted Biz
- **D** Restricted Biz
- **F** – Unrestricted 1\textsuperscript{st} Class (6%)
- **G** – Restricted 1\textsuperscript{st} Class (9%)
- **U** – Unknown
- **X** – Unrestricted Coach (72%)
- **Y** – Restricted Coach (11%)
Data Filtering

• Delete records with 0 or NULL fares
• *Delete records with fares* < $50 and > $5000  
  – Or least 10%, greatest 10%
• Delete records with trip distance < 200nm and trip distance > 10,000
Airfare vs Stage-length (DCA Q1 2013)

- Saipan
- Guam
- Honolulu, Anchorage, ...

Airfares > $2000?
Airfare DCA_SFO

Best Fit:
Airfare = (Ln(Cumulative_Demand) - Ln(Market_Size))/Airfare_Sensitivity

Parameters:
Market_Size – maximum demand
Airfare_Sensitivity – akin to price elasticity

Drop these
Airline Revenues from Airfares

• Adjusted Airfare for Fees
• Airfare Revenue for Airlines = 0.949(Airfare) + $0.44
• Subtract Taxes and Fees
  – Ticket Tax 7.5%
  – Segment Fee (e.g $3.50)
  – Passenger Facility Charge (e.g. $2.50)
• Add Ancillary Fees
  – Baggage
  – Fuel