Airline Subscription Databases

Dr Frankie O'Connell

Two Key Subscription Airline Databases

UNIVERSITY OF SURREY

OAG analyser

Gives Capacity data (Supply Data)

- OAG is a subscription database that houses the world's largest collection of air travel data, including the schedules database of more than 980 airlines and over 4000 airports.
- It handles more than 57 million records of flight status updates per year
- This database does **not** take account of Charter flights and Air Cargo flights.

Sabre

Sabre AirVision Market Intelligence

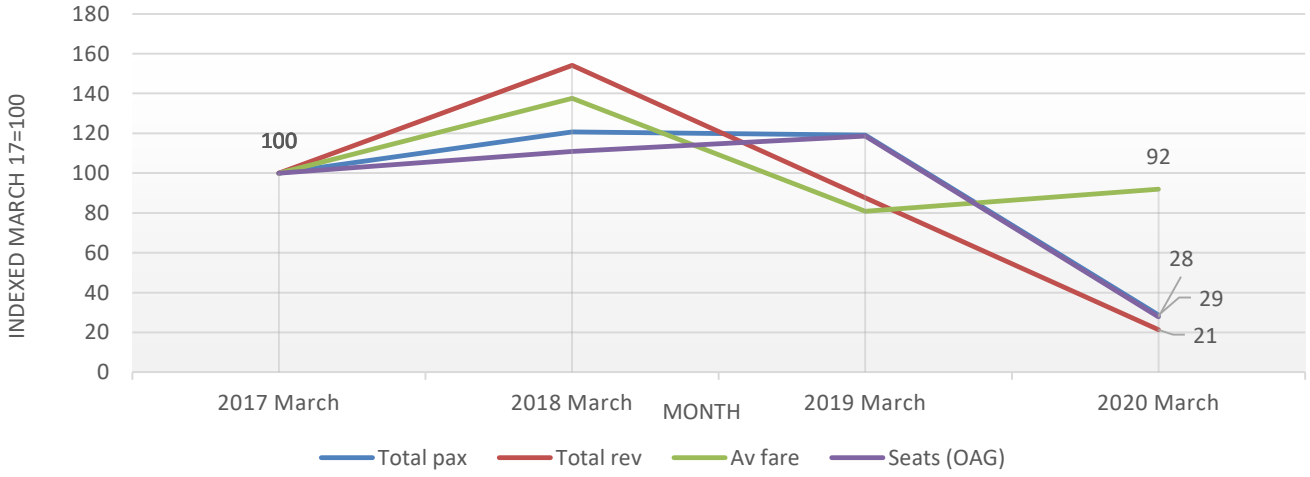
Market Information Data Tapes (MIDT)

Gives the Demand Data

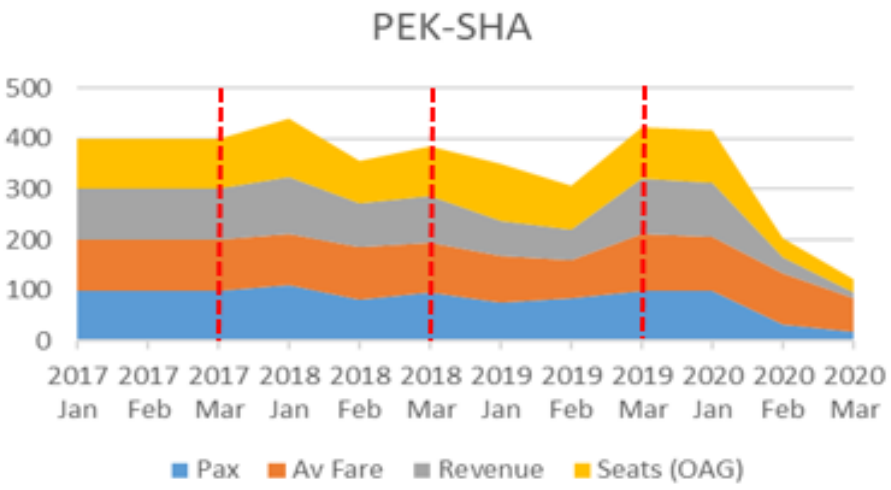
- Sabre data collects information pertaining to **passenger demand, fares and revenues** earned by airlines that can be customised for specific routes/countries/continents
- The system amasses information on indirect bookings such as online travel agents but uses an algorithm that **also** takes direct bookings (airline websites) into account

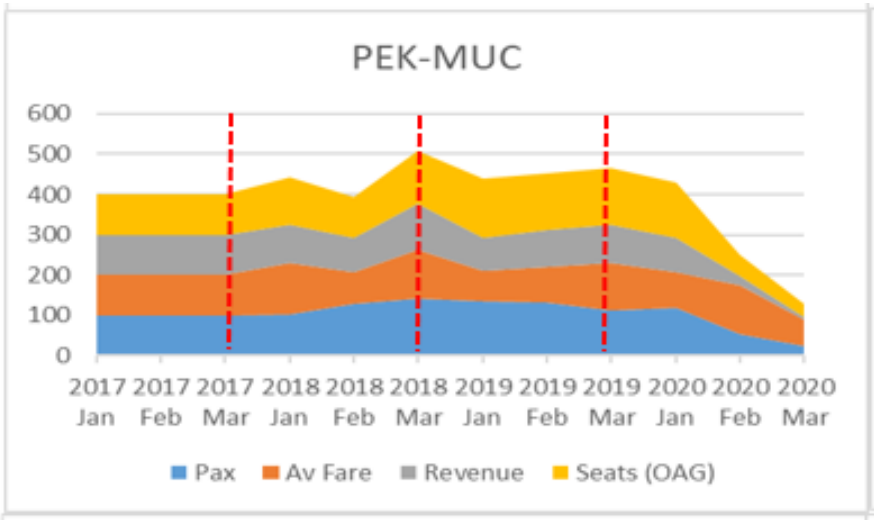
China to Europe time-series **seats** (Jan 2017-April 2020)

China to Europe March 2017- March 2020

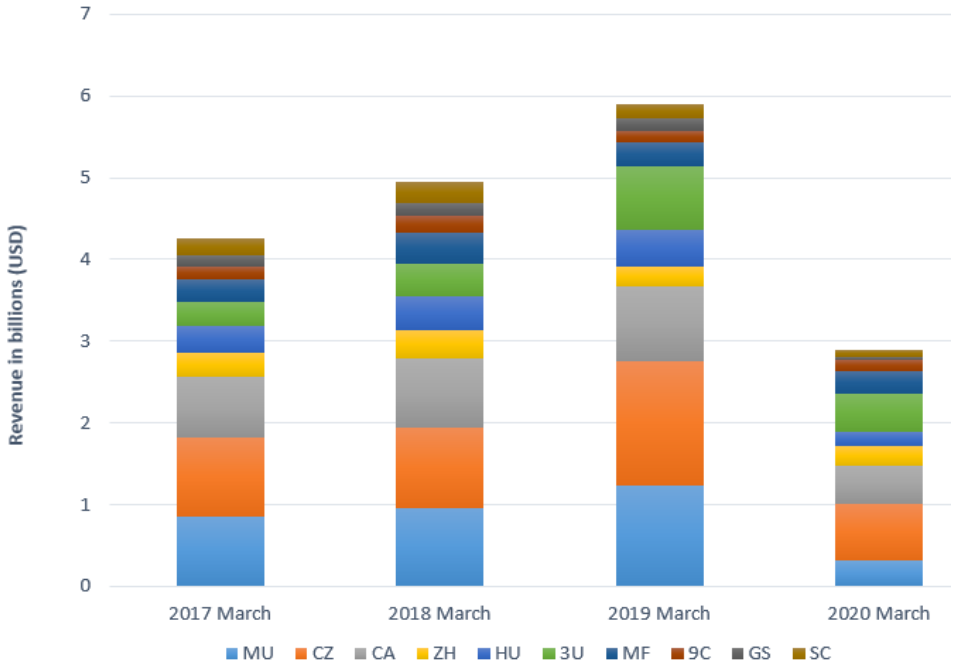


Data analysis depictions





China Domestic markets Top 10 airlines revenues ($Billions)



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The impact of terrorism on European tourism

Table 3
Average fares by city and month, and continental origin of traffic.

	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec
European Union												
Paris Jan 2015	$214	$213	$207	$212	$218	$210	$203	$209	$215	$222	$210	$218
Copenhagen 2015	$318	$302	$278	$284	$285	$291	$303	$280	$302	$306	$332	$319
Paris Nov 2015	$199	$209	$194	$207	$208	$217	$206	$204	$214	$221	$216	$199
Berlin 2016	$206	$383	$188	$162	$197	$180	$170	$173	$186	$193	$247	$231
Turkey 2016	$451	$450	$449	$435	$481	$461	$440	$482	$458	$431	$428	$406
Nice 2016	$381	$377	$319	$327	$366	$370	$372	$348	$331	$326	$379	$339
Brussels 2016	$261	$245	$285	$264	$267	$251	$278	$250	$255	$266	$251	$219
Manchester 2017	$250	$302	$275	$278	$271	$286	$244	$244	$283	$270	$329	$257
Stockholm 2017	$186	$259	$210	$177	$172	$193	$197	$181	$183	$179	$264	$231
London 2017	$271	$260	$220	$216	$260	$237	$274	$221	$285	$324	$329	$263
United States												
Paris Jan 2015	$1802	$1570	$1840	$1660	$1991	$2101	$1614	$1593	$1793	$1660	$1728	$2071
Copenhagen 2015	$1726	$1782	$1629	$1706	$1500	$1772	$1526	$1625	$1986	$2032	$1720	$1613
Paris Nov 2015	$1961	$2525	$1907	$1720	$1949	$1996	$1646	$1478	$1836	$1655	$1827	$2428
Berlin 2016	$1740	$2110	$1741	$1573	$1497	$1787	$1445	$1322	$1406	$1577	$1909	$1723
Turkey 2016	$1509	$1442	$1438	$1489	$1446	$1576	$1294	$1511	$1372	$1317	$1459	$1634
Nice 2016	$3482	$4211	$2608	$2329	$2700	$3275	$2556	$2277	$2236	$2272	$2861	$2420
Brussels 2016	$1664	$1704	$1682	$1574	$1563	$1759	$1594	$1626	$1745	$1803	$1772	$1555
Manchester 2017	$1242	$1521	$1477	$1241	$1485	$1399	$1358	$1318	$1383	$1439	$1453	$1187
Stockholm 2017	$1314	$1703	$1395	$1386	$1571	$2107	$1306	$1294	$1719	$3670	$1625	$2555
London 2017	$1698	$1814	$1394	$1370	$1559	$1772	$1448	$1902	$1539	$1405	$1582	$1568

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Table 4
The effects of terrorist attacks on ASKs.

	Frankfurt 2011	Paris 2013	Paris Jan 2015	Copenh. 2015	Paris Nov 2015	Berlin 2016	Turkey 2016	Nice 2016	Brussels 2016	Manch. 2017	Stockh. 2017	London 2017
Constant	1.8698	1.8840	1.8793	1.7572	1.8785	1.7710	1.8814	1.6455	1.7778	1.7508	1.7762	1.9679
	(33.85)	(32.19)	(22.19)	(10.66)	(23.71)	(15.31)	(22.65)	(9.17)	(18.08)	(1.14)	(13.85)	(27.78)
Jan	−0.0429	−0.0077	0.0244	−0.0839	0.0282	−0.0724	0.0277	−0.1537	−0.0407	−0.0671	−0.0233	−0.020
	(−5.97)	(−1.03)	(2.27)	(−3.77)	(2.63)	(−4.34)	(2.47)	(−6.36)	(−3.06)	(−3.14)	(−1.31)	(−2.04)
Feb	–	–	–	–	–	–	–	–	–	–	–	–
	–	–	–	–	–	–	–	–	–	–	–	–
Mar	0.0408	0.0534	0.0715	0.1202	0.0799	0.0593	0.0929	0.2474	0.0613	0.1573	0.0740	0.0656
	(4.94)	(6.56)	(6.27)	(4.92)	(7.26)	(3.70)	(8.04)	(9.91)	(4.48)	(7.37)	(4.15)	(6.57)
Apr	0.1424	0.1435	0.2276	0.2066	0.2361	0.1408	0.2601	0.4664	0.2372	0.4602	0.1850	0.1676
	(18.39)	(17.48)	(19.81)	(8.95)	(21.25)	(8.70)	(22.33)	(18.53)	(15.75)	(21.39)	(10.27)	(16.23)
May	0.2098	0.1982	0.3068	0.2523	0.3153	0.2047	0.3497	0.5332	0.2484	0.6919	0.2384	0.2404
	(27.31)	(24.47)	(26.90)	(11.02)	(28.61)	(13.31)	(30.27)	(21.35)	(18.13)	(32.01)	(12.43)	(24.39)
Jun	0.2592	0.2672	0.3949	0.3265	0.4034	0.2402	0.4321	0.6217	0.2978	0.8176	0.2991	0.2772
	(33.46)	(32.56)	(34.37)	(14.14)	(36.31)	(14.01)	(37.09)	(24.68)	(21.59)	(36.57)	(16.63)	(27.90)
Jul	0.2701	0.2866	0.4184	0.3433	0.4269	0.2059	0.5048	0.6358	0.3459	0.8689	0.3455	0.2914
	(34.86)	(34.92)	(36.78)	(13.87)	(38.83)	(12.72)	(39.18)	(23.04)	(25.08)	(40.39)	(19.20)	(29.32)
Aug	0.2724	0.2741	0.4045	0.3274	0.4129	0.2030	0.4934	0.5686	0.3434	0.8935	0.3363	0.3027
	(35.71)	(33.92)	(35.72)	(15.09)	(37.75)	(12.75)	(43.02)	(22.94)	(25.29)	(42.18)	(18.99)	(30.95)
Sept	0.2414	0.2297	0.3429	0.2025	0.3514	0.2359	0.4439	0.5245	0.3189	0.8352	0.3148	0.2676
	(31.23)	(27.99)	(29.84)	(8.77)	(31.62)	(14.58)	(38.10)	(20.83)	(23.24)	(38.82)	(17.50)	(26.86)
Oct	0.1795	0.1342	0.2419	0.1624	0.2503	0.1702	0.2817	0.2919	0.2144	0.6338	0.2368	0.1694
	(23.35)	(16.49)	(21.21)	(7.09)	(22.71)	(10.60)	(24.38)	(11.68)	(15.67)	(29.69)	(13.90)	(17.23)
Nov	0.0250	−0.0016	0.0754	0.02611	0.0828	0.0238	0.0870	−0.0443	0.0705	0.0754	0.1956	−0.0022
	(3.15)	(−0.17)	(6.50)	(1.12)	(7.34)	(1.45)	(7.38)	(−1.74)	(5.06)	(3.50)	(10.10)	(−0.22)
Dec	0.0094	0.0113	0.0558	−0.0407	0.0597	−0.0443	0.0898	−0.0510	−0.0083	0.0427	0.0433	−0.0032
	(1.13)	(1.22)	(4.75)	(−1.72)	(4.87)	(−2.69)	(7.53)	(−1.98)	(−0.59)	(2.00)	(2.42)	(−0.33)
D_{t30}	0.0332	0.0169	−0.0409	−0.1058	0.0154	0.1053	−0.0121	0.0397	−0.1229	0.0680	0.0344	0.0113
	(5.34)	(2.92)	(−5.54)	(−6.54)	(1.98)	(9.80)	(−1.42)	(2.18)	(−12.62)	(4.72)	(2.72)	(1.70)
R^2	0.7945	0.8113	0.8189	0.478	0.8178	0.4918	0.8473	0.7469	0.7071	0.87	0.5359	0.7833
Adj. R^2	0.7928	0.8092	0.8169	0.4722	0.8157	0.4862	0.8457	0.7441	0.7038	0.8686	0.5308	0.7809
No. of Obs	1462	1097	1099	1096	1099	1088	1097	1097	1097	1097	1097	1097
Prob > F	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Root MSE	0.0595	0.0546	0.0737	0.1534	0.0739	0.1073	0.0775	0.1675	0.0917	0.1431	0.1196	0.0661

Note: T-statistics are presented in parentheses. D_{t30} represents the change in the dependent variable in the 30 days after the terrorist attack.

If there was a terrorist attack on an European city with loss of life

Would there be a greater loss of Tourist Traffic?

Or

Would there be a greater loss of Business Traffic?

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The impact of terrorism on European tourism

Table 7
The effects of terrorist attacks on business seats sold.

	Frankfurt 2011	Paris 2013	Paris Jan 2015	Paris Nov 2015	Manch. 2017	Stockh. 2017	London 2017
Constant	0.8188***	1.1573***	0.9051***	0.8941***	0.6933***	0.8001***	0.9351***
	(53.36)	(15.53)	(19.99)	(21.41)	(4.71)	(31.57)	(14.38)
January	−0.0692***	−0.0484***	−0.0005	0.0490	−0.0169	−0.1052***	−0.025***
	(−3.47)	(−5.08)	(−0.01)	(0.87)	(−0.83)	(−2.99)	(−2.80)
February	–	–	–	–	–	–	–
	–	–	–	–	–	–	–
March	0.1625***	0.0355***	−0.0767	0.0339	−0.0094	0.0597*	0.0321***
	(7.09)	(3.43)	(−1.26)	(0.58)	(−0.46)	(1.69)	(3.45)
April	0.1911***	0.0861***	0.0215	0.1321**	0.1834***	0.1060***	0.1082***
	(8.88)	(8.25)	(0.35)	(2.26)	(8.89)	(2.98)	(11.23)
May	0.2464***	0.1044***	0.2888***	0.3995***	0.1605***	0.1781***	0.1321***
	(11.54)	(10.13)	(4.74)	(6.88)	(7.74)	(4.70)	(14.36)
June	0.2765***	0.1370***	0.3325***	0.4432***	0.2023***	0.1940***	0.1539***
	(12.85)	(13.13)	(5.41)	(7.57)	(9.43)	(5.46)	(16.60)
July	0.2370***	0.1087***	0.1670***	0.2777***	0.1804***	0.1002***	0.1427***
	(11.02)	(10.43)	(2.75)	(4.79)	(8.74)	(2.82)	(15.39)
August	0.2771***	0.0882***	0.0924	0.2031***	0.1651***	−0.0389	0.1265***
	(13.08)	(8.59)	(1.53)	(3.52)	(8.13)	(−1.11)	(13.86)
September	0.1505***	0.1288***	0.1051	0.2158***	0.1748***	0.1360***	0.1216***
	(7.01)	(12.34)	(1.71)	(3.69)	(8.47)	(3.83)	(13.08)
October	0.1010***	0.0675***	0.0717	0.1823***	0.1176***	0.1499***	0.0804***
	(4.73)	(6.52)	(1.18)	(3.14)	(5.74)	(4.46)	(8.75)
November	−0.0062	0.0039	−0.0506	0.0115	0.0069	0.1598***	−0.0145*
	(−0.28)	(0.33)	(−0.81)	(0.19)	(0.34)	(4.18)	(−1.57)
December	−0.0312	−0.0068	−0.0408	−0.1337**	0.0416**	0.0620*	−0.0322***
	(−1.35)	(−0.58)	(−0.65)	(−2.07)	(2.04)	(1.76)	(−3.51)
D_{t30}	−0.1541	−0.0026	−0.5347	−0.6951	−0.0061	−0.0484	−0.0460
	(−8.90)	(−0.36)	(−13.56)	(−16.96)	(−0.44)	(−1.94)	(−7.42)
R^2	0.3618	0.4323	0.1421	0.1613	0.2765	0.1221	0.5582
Adj. R^2	0.3565	0.4260	0.1326	0.152	0.2685	0.1124	0.5533
Number of Obs	1462	1097	1099	1099	1097	1097	1097
Prob > F	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Root MSE	0.1652	0.0694	0.3938	0.3894	0.1373	0.2363	0.0616

Note: T-statistics are presented in parentheses while ***, ** and * denote the significance of the GARCH(1,1) estimates at the 1%, 5% and 10% levels respectively.

Thank you all very much

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Table 8
The effects of terrorist attacks on economy seats sold.

	Frankfurt 2011	Paris 2013	Paris Jan 2015	Paris Nov 2015	Manch. 2017	Stockh. 2017	London 2017
Constant	1.1117***	1.1516***	1.1392***	1.1395***	1.021	1.0641***	1.1926***
	(18.08)	(9.79)	(13.52)	(14.59)	(0.74)	(4.36)	(12.91)
January	−0.0886***	−0.0519***	−0.0357***	−0.0368***	−0.0744***	−0.1447***	−0.0523***
	(−11.00)	(−3.44)	(−3.34)	(−3.48)	(−3.89)	(−4.27)	(−4.07)
February	–	–	–	–	–	–	–
	–	–	–	–	–	–	–
March	0.0204**	0.0365**	0.0616***	0.0592***	0.0790***	0.0601*	0.0477***
	(2.22)	(2.23)	(5.43)	(5.45)	(4.13)	(1.77)	(3.67)
April	0.0870***	0.0899***	0.1612***	0.1587***	0.2324***	0.1491***	0.1277***
	(10.10)	(5.44)	(14.10)	(14.49)	(12.05)	(4.36)	(9.49)
May	0.1389***	0.0388**	0.1847***	0.1822***	0.3969***	0.2092***	0.1902***
	(16.24)	(2.38)	(16.28)	(16.77)	(20.49)	(5.74)	(14.80)
June	0.1620***	0.0681***	0.2307***	0.2282***	0.4914***	0.2474***	0.2235***
	(18.80)	(4.13)	(20.18)	(20.83)	(24.52)	(7.24)	(17.25)
July	0.1425***	0.1290***	0.2221***	0.2197***	0.5313***	0.1839***	0.2316***
	(16.54)	(7.82)	(19.63)	(20.27)	(27.55)	(5.38)	(17.88)
August	0.1420***	0.0631***	0.1849***	0.1825***	0.5528***	0.0911***	0.2421***
	(16.73)	(3.89)	(16.42)	(16.92)	(29.12)	(2.71)	(18.98)
September	0.1462***	0.0669***	0.2156***	0.2131***	0.5209***	0.2437***	0.2229***
	(17.00)	(4.06)	(18.86)	(19.46)	(27.01)	(7.13)	(17.15)
October	0.1107***	0.0064	0.1545***	0.1521***	0.3503***	0.2188***	0.1321***
	(12.95)	(0.39)	(13.62)	(13.99)	(18.31)	(6.76)	(10.28)
November	0.0268	−0.0949***	0.0518***	0.0533***	−0.0243	0.1756***	−0.0298**
	(3.03)***	(−5.11)	(4.49)	(4.79)	(−1.26)	(4.77)	(−2.30)
December	−0.0139	−0.0711***	0.0181	0.0320***	−0.0572***	0.0644*	−0.0458***
	(−1.50)	(−3.83)	(1.56)	(2.66)	(−2.99)	(1.90)	(−3.56)
D_{t30}	0.0485***	0.0903***	0.0117	−0.0558***	0.0636***	−0.0227	0.0201**
	(7.00)	(7.72)	(1.40)	(−7.28)	(4.92)	(−0.96)	(2.32)
R^2	0.6034	0.2356	0.6129	0.6174	0.7849	0.1966	0.6323
Adj. R^2	0.6001	0.2272	0.6087	0.6131	0.7825	0.1877	0.6283
Number of Obs	1462	1097	1099	1099	1097	1097	1097
Prob > F	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Root MSE	0.0662	0.1098	0.0733	0.0729	0.1283	0.2273	0.0862

Note: T-statistics are presented in parentheses while ***, ** and * denote the significance of the GARCH(1,1) estimates at the 1%, 5% and 10% levels respectively.