There is no such thing as a free open sky:
Financial markets and the struggle over
European competences in international air transport

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<u>Web Appendix</u>

Airline	ICAO	Primary listing	Availability of share price data	State ownership (% in 1996 / 2004)	
Air France	AFR	Paris	15.01.1988 - 17.01.2008	90	/ 19
British Airways	BAW	London	10.02.1987 - 20.11.2007	0	/ 0
Deutsche Lufthansa	DLH	Frankfurt	01.01.1973 - 20.11.2007	43	/ 0
Alitalia	AZA	Milan	15.05.1986 - 17.01.2008	89	/ 50
Austrian Airlines	AUA	Vienna	13.06.1988 - 17.01.2008	52	/ 10
Finnair	FIN	Helsinki	17.08.1990 - 20.11.2007	60	/ 70
KLM*	KLM	Amsterdam	20.11.1987 - 05.05.2005	25	/ 19
SAS	SAS	Stockholm	01.01.1992 - 20.11.2007	50	/ 50
American Airlines	AAL	New York (NYSE)	02.01.1973 - 20.11.2007	0	/ 0
Continental Airlines	COA	New York (NYSE)	14.07.1993 - 20.11.2007	0	/ 0

Notes: State ownership data was compiled from AEA (1997, 2005). *KLM was de-listed after the Air France merger in April 2004 but was a detached company fulfilling all selection criteria before.

Table A1: Sample of airline companies

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          dafr      dbaw      ddlh      daza      daua      dfin      dklm      dsas      daal      dcoa
dafr    1.0000
dbaw    0.0655    1.0000
ddlh    0.0988    0.0983    1.0000
daza    0.0271    0.0302    0.0817    1.0000
daua    0.0488    0.0510    0.0384    0.0087    1.0000
dfin    0.0147   -0.0128    0.0078   -0.0066   -0.0009    1.0000
dklm    0.1066    0.1043    0.1569    0.0420    0.0634    0.0211    1.0000
dsas    0.0306    0.0280    0.0316    0.0137    0.0128    0.0338    0.0276    1.0000
daal    0.0610    0.0891    0.0498    0.0231    0.0221    0.0335    0.0344    0.0456    1.0000
dcoa    0.0715    0.0756    0.0719    0.0063    0.0412    0.0114    0.0543    0.0750    0.4679    1.0000

Breusch-Pagan test of independence: chi2(45) =   884.035, Pr = 0.0000
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**Table A2:** Correlation matrix of equation residuals for the SUR system in the 0-E-1 Window

	Larger European Airlines			Smaller European Airlines					US airlines		Joint test
	AFR	**BAW**	**DLH**	**AZA**	**AUA**	**FIN**	**KLM**	**SAS**	**AAL**	**COA**	**All ARs = 0**
Event 1	-5.298 *	-3.263	-0.514	-0.166	0.521	0.375	0	0.911	1.595	2.357	10.025
Event 2	0.233	-0.372	0.794	2.326	-0.311	1.085	-0.745	-1.09	0.534	-3.572	7.663
Event 3	-0.268	0.753	-0.603	-0.567	-0.145	-0.174	0.01	-0.469	-1.711	-0.433	1.166
Event 4	2.891	-0.377	1.23	-0.623	-4.783 ***	1.014	-0.45	-1.432	1.263	3.004	20.144 *
Event 5	0.863	-0.629	-1.724	0.696	-0.591	1.624	0.044	0.683	-1.395	-3.95	6.941
Event 6	-0.096	-0.743	-1.085	-1.654	-0.879	-0.415	-0.227	0.051	-0.224	0.72	2.281
Event 7	-10.806 ***	-0.931	0.924	0.836	0.671	-0.649	-0.215	-0.376	0.256	-0.12	25.742 **
Event 8	-0.54	-0.028	0.284	5.587 ***	-0.309	0.217	-1.065	-0.755	-0.697	2.743	15.429
Event 9	-2.491	-0.041	-2.696 *	0.978	-0.344	-2.371	-1.076	-0.784	0.176	0.484	7.267
Event 10	-12.076 ***	0.323	0.087	0.271	-2.196	-0.235	-0.187	-3.306	-0.169	-0.114	35.124 ***
Event 11	3.238	0.032	-0.204	-0.981	3.243 *	-0.415	-0.933	-0.877	0.349	0.65	9.612
Event 12	-0.75	-1.191	-0.808	-1.943	0.709	-0.263	-0.954	0.97	-1.214	0.593	3.462
Event 13	-0.508	-0.114	0.488	-0.892	0.59	0.507	-2.569	1.253	0.189	0.356	4.574
Event 14	-0.462	-0.411	2.115	0.148	4.647 ***	0.769	-0.022	0.91	-0.025	1.063	16.041
Event 15	2.53	-2.995	-2.829 *	-5.801 ***	0.576	-1.67	-2.218	0.586	-0.896	-2.769	22.802 *
Event 16	-0.252	-0.608	-0.424	0.324	4.41 ***	1.703	0.764	-0.884	0.11	1.977	14.033
Event 17	0.437	3.875	-0.999	0.341	-2.256	1.18	0.842	0.11	1.377	0.602	7.967
Event 18	-0.16	-5.552 *	0.051	-1.647	1.778	0.062	2.963 *	-0.434	-2.899	-2.806	15.969
Event 19	-0.778	0.3	-0.454	0.383	1.424	-0.176	0.836	-0.893	1.813	0.9	2.871
Event 20	0.486	2.966	-1.303	0.331	-0.273	-0.159	-0.147	-1.325	2.265	1.683	4.819
Event 21	5.452 *	2.432	0.642	4.605 **	4.127 **	-4.293 *	2.997 *	-2.364	-1.558	0.811	32.506 ***
Event 22	-3.383	-1.16	2.822 *	0.144	-0.134	0.063	0.607	5.134 **	11.492 ***	10.385 ***	51.748 ***
Event 23	1.048	0.316	1.144	-0.633	1.257	0.128	-2.216	-1.645	-1.98	-0.669	6.675
Event 24	1.55	4.363	0.843	1.93	0.919	1.686	9.056 ***	0.626	6.929 **	2.627	48.535 ***
Event 25	-1.074	0.296	-0.452	-0.856	0.503	1.26	2.707	2.239	0.323	0.802	6.329
Event 26	-2.081	-4.626 *	0.924	-0.182	-0.97	-0.976	-1.894	-1.07	-2.161	-1.528	8.302
Event 27	-0.927	0.598	-0.741	1.28	-0.202	1.877	-1.034	0.125	-0.122	0.031	2.501
Market return	0.677 ***	1.218 ***	0.784 ***	0.767 ***	0.84 ***	0.305 ***	0.694 ***	0.392 ***	1.691 ***	1.609 ***	-
Kerosene return	-0.049	-0.054	-0.035	-0.03	-0.017	-	-0.06 *	-	-0.098 ***	-0.031	-
Nine-Eleven	-7.395 ***	-7.177 ***	-4.273 ***	-1.911	-4.227 ***	-1.144	-3.703 **	-8.133 ***	-8.459 ***	-11.661 ***	-
Constant	-0.023	-0.012	-	-0.07	-0.038	-0.02	-0.025	-0.002	-0.06	-0.023	-
r2	0.086	0.11	0.248	0.131	0.173	0.024	0.175	0.066	0.197	0.209	-
chi2	211.046 ***	285.419 ***	767.683 ***	360.42 ***	494.722 ***	57.542 **	475.876 ***	162.814 ***	602.666 ***	651.438 ***	-

Breusch-Pagan test of independence in residual across equations: chi2(45) = 871.746***

Notes: Coefficients from a system of seemingly unrelated regressions and the test results for the null hypothesis that the individual ARs are jointly zero

* p<0.05, ** p<0.01, *** p<0.001

Table A3: Results for the 1-E-1 Window

	Larger European Airlines			Smaller European Airlines					US airlines		Joint test
	AFR	**BAW**	**DLH**	**AZA**	**AUA**	**FIN**	**KLM**	**SAS**	**AAL**	**COA**	**All ARs = 0**
Event 1	-1.211	-0.027	-0.443	-0.691	0.128	0.149	0.326	2.067	-0.059	-1.462	5.379
Event 2	-1.63	-1.857	-0.431	-0.055	-0.653	0.609	-0.584	-0.112	0.145	0.003	2.936
Event 3	-1.615	-0.077	-0.383	0.162	-0.367	0.539	0.321	0.542	-1.083	-0.319	1.527
Event 4	1.672	0.135	-0.699	-0.78	-0.686	-0.026	-0.127	1.636	0.027	0.719	4.669
Event 5	0.272	-0.287	0.816	0.255	2.47 *	0.519	0.018	0.373	-0.451	-1.332	7.774
Event 6	0.387	-0.25	0.287	-0.199	-1.417	0.152	-0.482	0.736	1.038	3.623 *	9.828
Event 7	0.325	0.003	-0.05	0.392	0.698	0.028	-0.062	-0.022	0.088	1.245	1.597
Event 8	0.511	0.052	0.56	1.611	0.11	0.357	-0.354	-0.032	-0.097	0.647	2.733
Event 9	-1.295	-0.031	-1.561	3.113 **	-0.125	-0.61	-0.562	-0.33	-0.463	-0.126	11.260
Event 10	0.973	-0.726	0.725	-0.791	-0.055	0.99	0.307	-1.39	-0.624	-0.455	3.627
Event 11	-0.96	0.351	0.222	-1.564	0.364	0.484	0.081	-0.555	-0.259	-0.591	2.897
Event 12	-0.418	-1.066	0.484	-1.263	0.385	-0.562	-0.296	0.212	-0.221	-0.449	2.572
Event 13	0.936	-0.015	-0.552	0.936	0.189	0.085	0.168	0.009	0.64	0.915	1.915
Event 14	0.159	0.121	0.504	0.119	1.164	0.768	0.096	1.308	0.082	-0.009	3.093
Event 15	0.958	-0.371	-0.267	-2.814 *	0.909	-2.821	1.052	-1.466	-1.178	-1.233	13.838
Event 16	-0.339	-1.068	-0.489	-0.583	1.697	0.548	-1.295	-1.637	-0.871	0.635	8.506
Event 17	0.289	1.117	0.207	0.026	-1.642	0.92	0.732	-0.134	-0.861	-1.812	6.357
Event 18	0.499	-2.619	0.261	-0.759	2.683 **	0.235	1.167	0.326	-0.821	-0.381	13.554
Event 19	0.835	2.73	0.765	0.682	1.928 *	0.576	1.279	0.52	0.402	0.27	8.361
Event 20	0.695	-1.075	0.505	-0.064	-0.554	0.412	0.467	-0.696	0.176	-1.603	3.627
Event 21	1.502	2.63	0.742	1.453	3.378 ***	-1.824	2.632 *	0.277	3.873 *	4.717 **	32.361 ***
Event 22	-3.027	-2.839	-1.118	-0.771	-2.214 *	-0.198	-2.048	-0.61	2.972	1.316	19.313 *
Event 23	0.301	0.249	1.604	-0.921	0.312	-0.238	-1.75	-1.192	0.834	-0.512	9.283
Event 24	-0.037	0.732	0.138	-0.172	0.128	-0.212	2.157 *	1.441	0.022	0.464	5.588
Event 25	0.133	0.245	-0.238	-0.646	0.182	0.518	1.474	1.12	1.551	1.239	4.313
Event 26	-1.579	0.297	-0.585	-0.727	-0.963	-0.909	-1.59	-1.719	-1.931	-1.887	7.812
Event 27	-0.716	1.239	-0.226	-0.355	-0.08	0.09	-0.784	0.941	1.116	0.053	2.682
Market return	0.673 ***	1.223 ***	0.788 ***	0.771 ***	0.841 ***	0.305 ***	0.707 ***	0.384 ***	1.704 ***	1.617 ***	-
Kerosene return	-0.053	-0.053	-0.039	-0.029	-0.02	-	-0.059 *	-	-0.1 ***	-0.032	-
Nine-Eleven	-7.37 ***	-7.175 ***	-4.258 ***	-1.923	-4.216 ***	-1.147	-3.686 **	-8.129 ***	-8.455 ***	-11.664 ***	-
Constant	-0.046	-0.014		-0.054	-0.042	-0.019	-0.024	-0.01	-0.054	-0.014	-
r2	0.063	0.107	0.244	0.125	0.168	0.023	0.165	0.064	0.187	0.203	-
chi2	145.552 ***	275.345 ***	753.049 ***	342.476 ***	479.445 ***	54.721 **	439.185 ***	158.344 ***	566.86 ***	628.398 ***	-

Breusch-Pagan test of independence in residual across equations: chi2(45) = 877.141***

Notes: Coefficients from a system of seemingly unrelated regressions and the test results for the null hypothesis that the individual ARs are jointly zero
* p<0.05, ** p<0.01, *** p<0.001

Table A4: Results for the 0-E-5 Window

Appendix A5: Comparing European Airlines
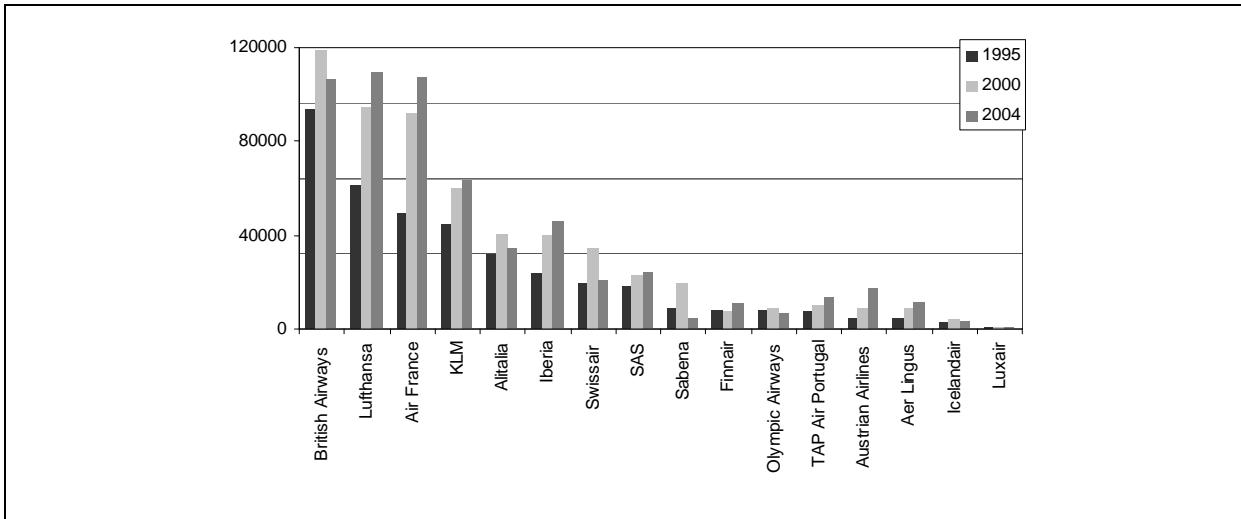
Figure A1.1: Output of European flag carriers throughout the investigation period (million RPK)

Source: Author compiled data based on AEA (AEA 2005, 2001, 1997). Notes: Airlines are sorted by output in the beginning of the investigation period (1995). Vertical lines indicate the normal, doubled and tripled average of output across companies and time periods. To ensure that the complete flag carrier market is depicted, the figures for Swissair and Sabena in 2004 are those of their successor companies Swiss and SN Brussels, respectively.
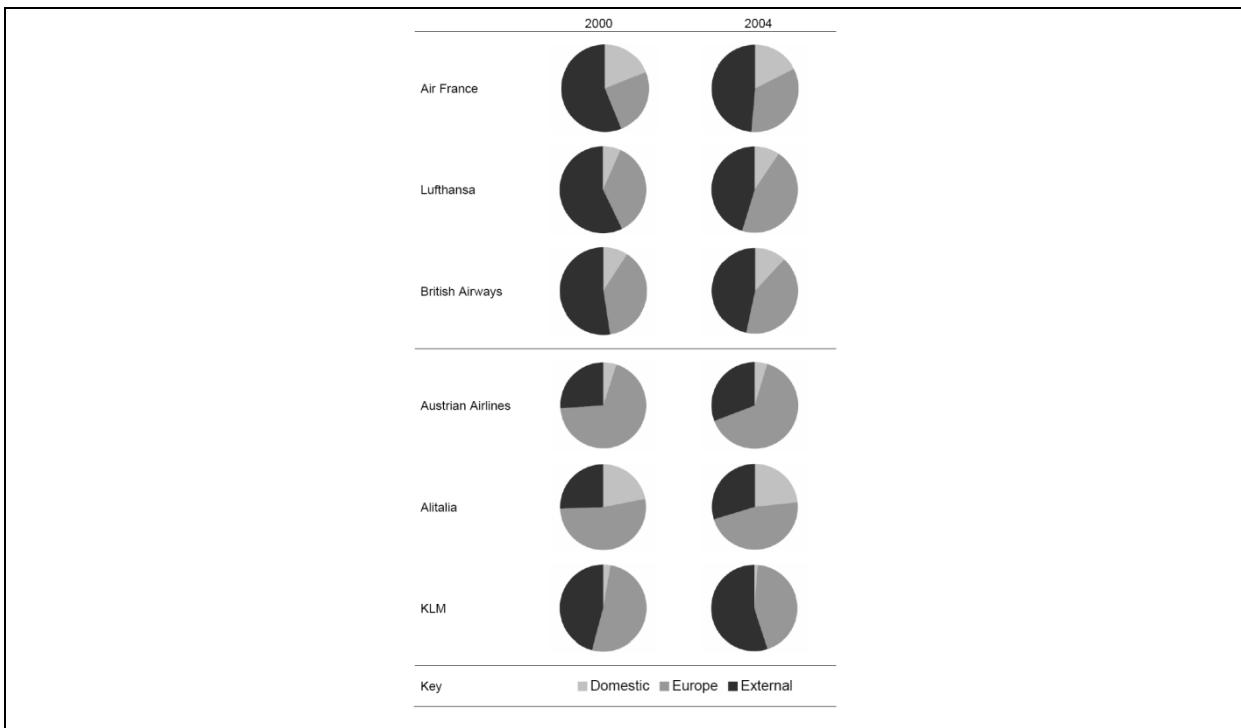
Figure A1.2: Geographical distribution of flag carrier destinations

Source: Author compiled data based on AEA yearbooks (AEA 2005, 2001). Notes: Airlines are sorted by overall network size in 2000. 'Europe' here refers to the geographical continent. Unfortunately, destination figures broken down to the internal aviation market of the EU were not available. 'External', thus, refers to intercontinental routes.

Appendix A6: Retrieval and coding of event data from the Financial Times (LexisNexis)

Table A6.1: Logic of the document search algorithms for the event data collection

Period	Doc. subject	Doc. Type	Keywords I	Keywords II	
01.01.1995-15.05.2004	Air Transport Aviation	longer than 60 words	commission court council government	nationality ownership open skies freedom(s) of the air traffic rights bilateral agreement(s) air service agreement horizontal agreement substantially owned effectively controlled community carrier designation	↓ OR ↓ **Financial Times** 384 documents
	→ → → AND → →				
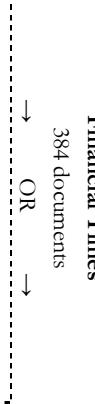
Table A6.2: Outline of the event data coding procedure

Step / Variable	Coder task	Remarks / Description
(1) RELEVANCY (Dummy)	Decide whether the article makes reference to the topic of interest!	- Variable to quickly sort out documents not related to the topic of interest - If no, coder abandons document and switches to the next one
(2) NEWS (Dummy)	Does the document report any news / events?	- Variable to quickly sort out documents which only provide summaries, are repetitions or do only refer to the conflict secondarily - If no, coder abandons document and switches to the next one - Serves as event identifier later on
(3) DESCR	Describe the event identified in (2)!	- Limited to 20 words - Consistency check of the coding
(4) ACTOR	Which actor brought the identified event in (2) about?	- Three possible entry fields, coding to be selected from a pre-defined pulldown menu - Distinguishes governmental, inter-governmental, and supranational actors
(5) DATE	Retrieve the publication date!	- Publication date of the respective document
(6) EVDATE	Retrieve the date of the event identified in (2)!	- Actual date of the event coded in (2) - Coder guided via keywords such as 'tomorrow', 'yesterday', etc.
(7) FORMAL (Dummy)	Classify the event as being formal or informal in nature!	- Coder should decide whether the actor from (4) acted on the basis of codified procedures - Keywords like 'process', 'obligation', 'initiation', etc., were used for coder guidance
(8) DIREC (Dummy)	Decide to which of both assumptions on the future regulation of air traffic between EU states and third countries the identified event lends support!	- Coder is provided with two mutually exclusive and exhaustive statements regarding the future regulation of extra-EU air traffic - Based on the outline of the topic in the beginning of the procedure

Notes: Coder tasks solely concerning reading and document references not shown here.