



Prof Dr Andreas Papatheodorou











Prof Dr Andreas Papatheodorou





8

Prof Dr Andreas Papatheodorou









12



13



14

Prof Dr Andreas Papatheodorou Email: a.papatheodorou@aegean.gr, Internet: http://www.andreaspapatheodorou.info Copyright © 2022 Andreas Papatheodorou

















22



23

AVIATION & TOUR MANAGEME			FRANKFUR UNIVERSIT
igure 2.2. ISI	C treatment	of air trans	sport
Section H Tra	nsport and S	storage	
Division	Group	Class	Description
Division 51			Air transport
	511	5110	Passenger air transport
	512	5120	Freight air transport
Section M Pro	C treatment	of aerial pl	hotography technical activities
Section M Pro	C treatment ofessional, so Group	of aerial pl cientific and Class	hotography technical activities Description
Section M Pro Division Division 74	C treatment ofessional, sc Group	of aerial pl cientific and Class	hotography technical activities Description Other professional, scientific and technical
Section M Pro Division Division 74	ofessional, so Group	of aerial pl sientific and Class	hotography technical activities Description Other professional, scientific and technical activities
Gection M Pro Division Division 74	ofessional, so Group	of aerial pl sientific and Class 7410	hotography technical activities Description Other professional, scientific and technical activities Specialized design activities
-igure 2.3. ISI Section M Pro Division Division 74	C treatment ofessional, so Group 741 742	of aerial pl sientific and Class 7410 7420	hotography technical activities Description Other professional, scientific and technical activities Specialized design activities Photographic activities This class includes:
-igure 2.3. ISI Section M Pro Division Division 74	C treatment ofessional, so <u>Group</u> 741 742	of aerial place	hotography technical activities Description Other professional, scientific and technical activities Specialized design activities Photographic activities This class includes:
-igure 2.3. ISI Section M Pro Division Division 74	C treatment ofessional, so Group 741 742	of aerial pl cientific and <u>Class</u> 7410 7420	hotography technical activities Description Other professional, scientific and technical activities Specialized design activities Photographic activities This class includes: • Commercial and consumer photograph production, including aerial photograph
-igure 2.3. ISI Section M Pro Division Division 74	C treatment ofessional, sc Group 741 742	of aerial pl cientific and <u>Class</u> 7410 7420	hotography technical activities Description Other professional, scientific and technical activities Specialized design activities Photographic activities This class includes: • Commercial and consumer photograph production, including aerial photography • Eilm processing
-igure 2.3. ISI Section M Pro Division Division 74	C treatment ofessional, sc Group 741 742	of aerial pl cientific and <u>Class</u> 7410 7420	hotography technical activities Description Other professional, scientific and technical activities Specialized design activities Photographic activities This class includes: • Commercial and consumer photograph production, including aerial photography • Film processing • Activities of photoiournalists
-igure 2.3. ISI Section M Pro Division 74	C treatment ofessional, sc Group 741 742	of aerial pl cientific and Class 7410 7420	hotography technical activities Description Other professional, scientific and technical activities Specialized design activities Photographic activities This class includes: • Commercial and consumer photograph production, including aerial photography • Film processing • Activities of photojournalists

24



25



AVIATION & TOURISM MANAGEMENT		OF APPLIED SCIENCES
ploring the Avia	tion and Tourism Nexus	
able 1		Source: Papatheodorou (20
vil aviation sectors and services and th	eir relationship with tourism.Source: based on ICAO (2019) and own elaboration.	
Sectors	Services	Relationship with tourism
Commercial air transport	Scheduled passenger transport	• 5 (B, L, O)
	 Scheduled freight and mail transport 	• 2
	Charter passenger transport	• 5 (L, O)
	 Charter freight and mail transport 	• 2
	 On demand commercial business aviation/air taxi 	• 5 (B)
	 Other on demand air transport (e.g., air ambulance) 	- 1
General aviation	 Aerial work, e.g., aerial spreading and spraying, aerial photography, aerial 	• 1
	advertisement, etc.	
	Instructional flying	• 1
	Pleasure flying	• 5 (L)
	Other flying	• 1
Airport	 Aircraft related service 	• 1
	Passenger related service	• 5 (B, L, O)
	Cargo handling	• 3
	 Airline related real estate services (e.g., terminal rental) 	• 2
	 Other real estate services (e.g., MICE facilities) 	• 5 (B)
	Car parking - airport owned	• 5 (B, L, O)
	Utility recharges	• 1
	 Airport concessions (e.g., retail, duty-free shops) 	• 5 (B, L, O)
Air navigation	En-route services	• 2
	 Approach and aerodrome control 	• 3
	Air traffic management	• 3
	 Communications, navigation, and surveillance 	•1
	Aeronautical information services	• 1
Maintenance and overhaul	Aircraft maintenance	- 1
	Aircraft repair	• 1
Regulatory/public administration	 Certification of aircraft and aviation licensing 	•1
functions	Aeropolitics, economic aviation policy	• 5 (B, L, O)
1 1 2 1 1 1 1	Legal and other administrative services	• 3
Aviation training	Priot training	•1
	AVIATION DEDIESSIONAL FRAINING	• 1

27



Prof Dr Andreas Papatheodorou



29





31





33



34

Prof Dr Andreas Papatheodorou Email: a.papatheodorou@aegean.gr, Internet: http://www.andreaspapatheodorou.info Copyright © 2022 Andreas Papatheodorou

SALES TO INTERMEDIATE DEMAND Productive sectors FINAL DEMAND Final demand sectors FIOAL DEMAND Final demand sectors FIOAL DEMAND Final demand sectors FIOAL DEMAND Final demand sectors PURCHASES FROM 1 2 3 4 m H I G E Industry FROM 1 2 3 4 m H I G E Industry 1 Industry 2 Holustry 3 Industry 4 X11 X12 X13 X14 X1m C2 C1 I G1 E1 X1 Sectors Industry 1 Industry 3 X11 X12 X13 X14 X1m C2 C2 I2 G2 E2 X3 Sectors X31 X32 X33 X34 X4m C4 I4 G4 E4 X4	Av M	ABASA ANAGEMENT	tpu	ıt M	lode	els 1	L/3			<	OF APPLIE	RANKFUR JNIVERSIT ED SCIENCI	RT TY ES
PURCHASES FROM Industry 1 Industry 2 Industry H I G E D_{1} set Industry 1 Industry 2 X_{11} X_{12} X_{13} X_{14} \dots M I G E D_{2} set Industry 1 Industry 2 Industry 3 Industry 4 X_{11} X_{12} X_{13} X_{14} \dots X_{1m} C_{1} I_{1} G_{1} E_{1} X_{1} set Industry 2 Industry 3 Industry 4 X_{11} X_{12} X_{23} X_{24} \dots X_{2m} C_{2} I_{2} G_{2} E_{2} X_{2} X_{21} X_{22} X_{33} X_{34} \dots X_{3m} C_{3} I_{3} G_{3} E_{3} X_{3} X_{41} X_{42} X_{43} X_{44} \dots X_{4} X_{4} X_{4} X_{4}		SALES TO		INTERN Pro	IEDIAT ductive	E DEN sector	IAND 's	F Fina	INAL D al dema	EMANI	D tors	-AL PUT	
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$		PURCHASES FROM	1	2	Indus 3	stry 4	<i>m</i>	н	T	G	E		
$\begin{bmatrix} & & & & & & & & & & & & & & & & & & &$	Productive sectors	Industry 1 Industry 2 Industry 3 Industry 4 Industry <i>m</i>	$egin{array}{c} X_{11} & X_{21} & X_{31} & X_{41} & & & & & & & & & & & & & & & & & & &$	X ₁₂ X ₂₂ X ₃₂ X ₄₂ X _{m2}	X ₁₃ X ₂₃ X ₃₃ X ₄₃ X _{m3}	X ₁₄ X ₂₄ X ₃₄ X ₄₄ X _{m4}	$\begin{array}{cccc} \ldots & X_{1m} \\ \ldots & X_{2m} \\ \ldots & X_{3m} \\ \ldots & X_{4m} \\ \ldots & \ddots \\ \ldots & \ddots \\ \ldots & X_{mm} \end{array}$	$\begin{array}{c} C_1\\ C_2\\ C_3\\ C_4\\ \cdot\\ C_m \end{array}$	₁ ₂ ₃ ₄	$\begin{array}{c} G_1\\G_2\\G_3\\G_4\\\cdot\\G_m\end{array}$	E ₁ E ₂ E ₃ E ₄ E _m	X ₁ X ₂ X ₃ X ₄ X _m	

35

	IBA MAGEMENT	tpu	t M	ode	ls 2	/3				DF APPLIED	ANKFURT NIVERSITY SCIENCES
Ø	Wages and salaries	W ₁	<i>W</i> ₂	W ₃	W_4	<i>W</i> _m	W _c	<i>W</i> ₁	W _G	$W_{\rm E}$	W
ary inputs	Profits/ dividends	P ₁	P_2	P_{3}	P_4	P _m	P _c	<i>P</i> ₁	$P_{\rm G}$	P _E	Р
Prim	Taxes	<i>T</i> ₁	T_2	T_3	<i>T</i> ₄	T _m	$T_{\rm C}$	<i>T</i> ₁	T _G	T _E	Т
	Imports	<i>M</i> ₁	<i>M</i> ₂	M ₃	<i>M</i> ₄	<i>M</i> _m	M _c	<i>M</i> ₁	M _G	M _E	М
	Total inputs	<i>X</i> ₁	<i>X</i> ₂	X ₃	<i>X</i> ₄	X _m	С	1	G	Е	X
where X = O C = C I = In G = G	: utput onsumption (hou vestment (private overnment exper	sehold e) nditure	E N s) V F	= Exp 1 = Imp V = Wa P = Pro = Tax	oorts oorts ages an fits anc es	d salaries I dividends	Fina H = I = G = E =	l demar House Investr Goverr Export	nd secto hold co nent exp nment e s secto	ors: nsumptio penditure expenditu rs	on sector e sector ire sector



37



Prof Dr Andreas Papatheodorou



39



AVIATION & TOURISM MANAGEMENT	OF APPLIED SCIENCES
Propulsive Mechanisms	
 Linkages and Multiplier (ΔΥ/ΔΕ > 1) concept and fields of application direct, indirect, induced and catalytic effects 	
Input - Output Model and the Tourism Ratio	
Primary Inputs Intermediary Inputs	Output for Consumption
 Optimism and Accelerator (ΔΙ/ΔΥ > 0) analytical and empirical context neighbourhood effect 	



42



43



44



45



46



47



48



49



50



51



52













58





60

Prof Dr Andreas Papatheodorou







63



64



65



66

Prof Dr Andreas Papatheodorou



67





69



70

Prof Dr Andreas Papatheodorou Email: a.papatheodorou@aegean.gr, Internet: http://www.andreaspapatheodorou.info Copyright © 2022 Andreas Papatheodorou





Prof Dr Andreas Papatheodorou




74





76



77



78

Prof Dr Andreas Papatheodorou

Email: a.papatheodorou@aegean.gr, Internet: http://www.andreaspapatheodorou.info Copyright © 2022 Andreas Papatheodorou









81





83











87



88



89



90







Prof Dr Andreas Papatheodorou Email: a.papatheodorou@aegean.gr, Internet: http://www.andreaspapatheodorou.info Copyright © 2022 Andreas Papatheodorou





Prof Dr Andreas Papatheodorou Email: a.papatheodorou@aegean.gr, Internet: http://www.andreaspapatheodorou.info Copyright © 2022 Andreas Papatheodorou



95



Prof Dr Andreas Papatheodorou Email: a.papatheodorou@aegean.gr, Internet: http://www.andreaspapatheodorou.info Copyright © 2022 Andreas Papatheodorou



97



98



99



100



101



102



103



104

Prof Dr Andreas Papatheodorou

Email: a.papatheodorou@aegean.gr, Internet: http://www.andreaspapatheodorou.info

Copyright © 2022 Andreas Papatheodorou



105



106



107







109



110



111









114





116



117



Prof Dr Andreas Papatheodorou Email: a.papatheodorou@aegean.gr, Internet: http://www.andreaspapatheodorou.info

Copyright © 2022 Andreas Papatheodorou



119



120





Prof Dr Andreas Papatheodorou Email: a.papatheodorou@aegean.gr, Internet: http://www.andreaspapatheodorou.info Copyright © 2022 Andreas Papatheodorou



123





125



126



127



128



129





131



132

Prof Dr Andreas Papatheodorou

Email: a.papatheodorou@aegean.gr, Internet: http://www.andreaspapatheodorou.info Copyright © 2022 Andreas Papatheodorou







134







Prof Dr Andreas Papatheodorou Email: a.papatheodorou@aegean.gr, Internet: http://www.andreaspapatheodorou.info Copyright © 2022 Andreas Papatheodorou



137



Prof Dr Andreas Papatheodorou

Email: a.papatheodorou@aegean.gr, Internet: http://www.andreaspapatheodorou.info Copyright © 2022 Andreas Papatheodorou



139





141





143



144


145





147



148



149



150

Prof Dr Andreas Papatheodorou

Email: a.papatheodorou@aegean.gr, Internet: http://www.andreaspapatheodorou.info

Copyright © 2022 Andreas Papatheodorou



151



152



153



154



155



Prof Dr Andreas Papatheodorou Email: a.papatheodorou@aegean.gr, Internet: http://www.andreaspapatheodorou.info Copyright © 2022 Andreas Papatheodorou



157



158







161



Prof Dr Andreas Papatheodorou Email: a.papatheodorou@aegean.gr, Internet: http://www.andreaspapatheodorou.info Copyright © 2022 Andreas Papatheodorou



163





165



166







168



169



170



171





173



174







177



178



179

Origin	Destination	Time via ADB outgoing/return (in hh:mm)	Time via ATH outgoing/retur n (in hh:mm)	Fare via ADB (€)	Fare via ATH (€)	extras ADB(€)	extras ATH (€)	N/S go	N/S return	stops	Total expenses via ADB (€)	Total expense via ATI (€)
Chios	Munich	10:45 / 7:00	8:30 / 12:30	155.31	128.61	40	100.64		ATH (€140)	NO	195.31	369.25
Chios	Amsterdam	12:00 / 20:00	13:40 / 18:45	140	184.77	40	100.64		ATH/ADB (€140/€90)	ATH/ZRH MUC/ATH	270.00	425.41
Chios	Vienna	19:00 / 7:30	13:30 / 9:00	109.98	184.64	40	113.64	ADB (€90)		ATH/ZRH ZRH/ATH	239.98	298.28
Chios	Frankfurt	10:40 / 15:45	8:10 / 7:00	120	184.15	40	120.64		ADB (€90)	NO	250.00	304.79
Chios	Istanbul	4:20 / 6:00	5:30 / 4:00	45	138.06	40	113.64			NO	85.00	251.7
Chios	London	13:20/10:30	8:45/ 8:50	196,53	159.18	40	133.64			ADB/MUC MUC/ADB	236.53	292.82
Chios	Paris	16:40/ 20:45	7:40/10:20	185,08	162.98	40	120.64		ADB (€90)	ADB/MUC MUC/ADB	315.08	283.62
Chios	Madrid	15:05/12:20	11:10/10:10	240,81	152.26	40	120.64			ADB/MUC MUC/ADB	280.81	272.90
Chios	Berlin	11:00 / 7:10	10:00 / 9:15	140	161.00	40	144.64			NO	180.00	305.64
Chios	Zurich	16:40 / 8:00	10:35 / 6:00	110	204.39	40	113.64	ADB (€90)		ATH/VIE	240.00	318.03

180

Table 4. Decu	(in normantages) to	the Secondaries for Each D	OF APPLIED SCIEN
Destination	Scenario 1 Optimal scenario in terms of time- and cost- effectiveness via ADB	Scenario 2 Optimal scenario in terms of cost- effectiveness via ATH	Scenario 3 Optimal scenario in terms of time- effectiveness via ATH
London	62.7%	32.7%	4.6%
Munich	87.7%	9.6%	2.7%
Amsterdam	78.6%	9.1%	12.3%
Berlin	90.0%	-	10.0%
Frankfurt	70.8%	20.6%	8.6%
Zurich	75.1%	10.0%	14.9%
Destination	Scenario 1 Optimal scenario in terms of time- and cost- effectiveness from Izmir	Scenario 2 Optimal scenario in terms of time- and cost- effectiveness from Athens	Scenario 3
Paris	65.0%	35.0%	N/A
Vienna	73.2%	26.8%	N/A
Istanbul	87.7%	12.3%	N/A
Madrid	39.6%	60.4%	N/A





183



184

AVIATION & TOURISM		OF APPLIED SCIENC
irline Type	Routes Opened	Market Share (%)
LCCs	63	50.4
Traditional	23	18.4
Ex Charter	24	19.2
Hybrid Cases	15	12.0
	125	100.0
Total "ABLE 1 Route evolution in t ource: Dobruszkes et al. (2016), add	he Morocco – EU market betwee pipted by the authors	een 2005 and 2015
TABLE 1 Route evolution in t iource: Dobruszkes et al. (2016), add	he Morocco – EU market betwo ppted by the authors Jerez (XRY)	een 2005 and 2015 Tangier (TNG)
Total TABLE 1 Route evolution in t ource: Dobruszkes et al. (2016), ada Malaga (AGP) Ferry	he Morocco – EU market betwee pipted by the authors Jerez (XRY) Ferry	een 2005 and 2015 Tangier (TNG) Ferry
TABLE 1 Route evolution in t iource: Dobruszkes et al. (2016), add Malaga (AGP) Ferry To Algeciras port 1h15min	he Morocco – EU market betwee ipted by the authors Jerez (XRY) Ferry To Algeciras 1h15min	een 2005 and 2015 Tangier (TNG) Ferry n/a
TABLE 1 Route evolution in t iource: Dobruszkes et al. (2016), add Malaga (AGP) Ferry To Algeciras port 1h15min Helicopter	he Morocco – EU market betwee ppted by the authors Jerez (XRY) Ferry To Algeciras 1h15min Helicopter	een 2005 and 2015 Tangier (TNG) Ferry n/a Helicopter
TABLE 1 Route evolution in t iource: Dobruszkes et al. (2016), add Malaga (AGP) Ferry To Algeciras port 1h15min Helicopter 30min (currently suspended)	he Morocco – EU market betwee pted by the authors Jerez (XRY) Ferry To Algeciras 1h15min Helicopter To Algeciras heliport 15min (currently suspended)	een 2005 and 2015 Tangier (TNG) Ferry n/a Helicopter n/a
Total TABLE 1 Route evolution in t iource: Dobruszkes et al. (2016), add Malaga (AGP) Ferry To Algeciras port 1h15min Helicopter 30min (currently suspended) Car/bus	he Morocco – EU market betwee pted by the authors Jerez (XRY) Ferry To Algeciras 1h15min Helicopter To Algeciras heliport 15min (currently suspended) Car/bus	een 2005 and 2015 Tangier (TNG) Ferry n/a Helicopter n/a Car/bus
Total TABLE 1 Route evolution in t ource: Dobruszkes et al. (2016), add Malaga (AGP) Ferry To Algeciras port 1h15min Helicopter 30min (currently suspended) Car/bus 3h50min from Algeciras port,	he Morocco – EU market betwee ipted by the authors Ierez (XRY) Ferry To Algeciras 1h15min Helicopter To Algeciras heliport 15min (currently suspended) Car/bus 1h17min from Algeciras port,	een 2005 and 2015 Tangier (TNG) Ferry n/a Helicopter n/a Car/bus 1h by crossing the border

185



Prof Dr Andreas Papatheodorou

Email: a.papatheodorou@aegean.gr, Internet: http://www.andreaspapatheodorou.info

Copyright © 2022 Andreas Papatheodorou





188



189





191







Prof Dr Andreas Papatheodorou Email: a.papatheodorou@aegean.gr, Internet: http://www.andreaspapatheodorou.info Copyright © 2022 Andreas Papatheodorou



195



196





Prof Dr Andreas Papatheodorou Email: a.papatheodorou@aegean.gr, Internet: http://www.andreaspapatheodorou.info Copyright © 2022 Andreas Papatheodorou



199





201



Prof Dr Andreas Papatheodorou Email: a.papatheodorou@aegean.gr, Internet: http://www.andreaspapatheodorou.info Copyright © 2022 Andreas Papatheodorou







205



206

