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Airports in Cities and Regions

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Looking in all the wrong places?

Catalytic effects in the context of product cycle theory

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The costs and benefits of commercial aviation have become a central focus of public and policy concern. Environmentalists have long maintained that economic externalities such as noise and greenhouse gas impacts are insufficiently incorporated into policy decisions. Consequently, refined measures of such costs have been developed. The measurement of benefits has not improved. In this chapter, we maintain that the economic benefit of aviation is incorrectly measured; the net gains from aviation-enabled trade are the proper measure. These benefits are more easily visible in selected non-core urban regions than in the largest world cities. Further, airport cities have their strongest economic benefit when they facilitate regional, rather than global, economic linkages.

1 Introduction

The economic impact of airports and airport cities on regions is of increasing public and policy interest due to the large capital investments entailed in airport construction and expansion, the possibly inadequately costly **environmental** impact, and the negative externalities surrounding airports. Policy decisions require that investments meet basic benefit-cost criteria. While prior experience with airports suggests that, on average, these criteria so far likely have been met, other types of infrastructure investments appear to systematically not meet such criteria (Flyvbjerg, Bruzelius, and Rothengatter, 2003). The increasing volume of air traffic, rising construction costs, the possibility of diminishing returns from additional airport capacity, and the increasing concern over climate change and oil conservation all contribute to the demand for valid and reliable measures of economic impact.

In this chapter, we maintain that researchers and policy makers have been looking for the economic impact of commercial aviation, airports, and airport cities in all the wrong places. We outline three areas in which current practice is often misplaced. First, the economic impact of aviation is often measured by its costs, rather than its

benefits. Second, the economic impact of aviation is often thought to be concentrated in the largest and most important world cities. Third, global linkages are often thought to be the primary drivers of airport cities. We contend that each of those points needs correction or qualification, advance alternative arguments, and present evidence that support our arguments.

We contend that the root of the measurement problems in an inadequate link between airport studies and mainstream social science, especially economic trade theory and urban and regional development theory. Policy makers, in Germany and elsewhere, have asked that the theory and measurement gap be narrowed (Pfähler, 2001). In debates surrounding the possible expansion of Heathrow and of Schiphol, critics and some policy makers have stated that several of the commonly used measures of economic impact are inadequate to support public decision-making (Boon, Davidson, Faber, Nelissen, and van de Vreede, 2008; Boon and Wit, 2005). We hope to narrow that gap.

2 Measuring the economic impact of commercial aviation

Trade economists build on Paul Samuelson's "iceberg" analogy to capture the total effects of transportation and other logistics costs. Products being shipped are like icebergs that melt in transit. Some products melt more quickly than others and some forms of transportation are associated with greater melting. Much potentially rewarding trade does not occur because the entire product melts in transit.

Ironically, in aviation impact studies, the metaphorical melting is counted as a gain. The greater the melting – that is, the greater the loss of product value – the higher the measured economic impact in terms of airline and airport employees, payroll, consumer spending, and related measures. These costs are schematized in Figure 1. The positive impacts of trade are hidden in the "catalytic effects" at the bottom of the figure.

Catalytic effects form the bridge between aviation studies and economic theory. The catalytic effects of commercial aviation are the net gains from trade, which are facilitated by aviation. The gains are connected to the products shipped by air, the products shipped by surface but coordinated, in part, via air, the services shipped by air, including tourism and many forms of business services, and possibly visits to friends and family. Catalytic effects are usually given short shrift in aviation literature but these are the impacts that regional and national governments should and do care about. Unfortunately, they are poorly measured. Often, they are not even discussed.

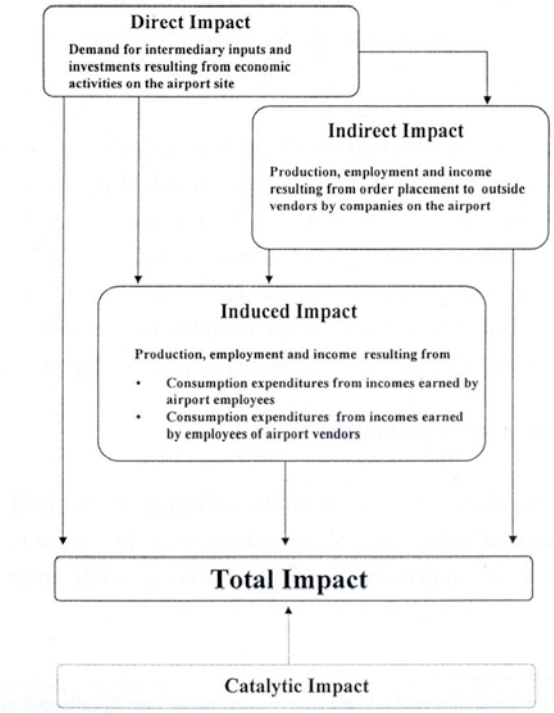

Fig. 1: Schematic view of the economic impacts of commercial aviation

Air transport increases value by effectively bringing regions closer together. Building on the iceberg analogy, for some types of products, surface transportation entails a large loss of value because, while the per kilometre costs may be low, the travel and processing time can be slow resulting in high inventory costs and other types of wastage. These include decreased value during transit and missed sales opportunities caused by late arrival.

The large advantage of aviation is that it saves on time. In the course of the ongoing logistics revolution, the costs of carrying inventory have dropped from about half of total U.S. logistics costs to about one-third even as total logistics costs have decreased from about 15 percent of GDP to about 10 percent. Despite falling over the past several decades, the per kilometre direct cost of air transport is still relatively high. However, air transport can be cost-effective when the speed sufficiently reduces inventory and wastage costs.

The costs of transport become less important as value-to-weight rises while inventory costs increase in importance as the value of that inventory increases. Perishability of various types also increases the value of air transport, as does the

impact of an "outage" on other costs. For example, a missing component can hold up a complex production process, so replacement parts may be flown to their destinations despite a seemingly prohibitive cost.

Analogous arguments apply to humans. Even though the large majority of personal travel, like cargo shipments, is via surface modes, under some circumstances, air travel is money saving, due to largely the time savings. One aspect of the value of air transportation is that it makes international meetings, such as the one producing this volume, feasible.

Airport efficiency, local land use, and ground transportation arrangements can have a significant impact on overall transport costs because the journeys of goods and people rarely begin or end on the tarmac. Sometimes the costs are in the form of ticket price, sometimes in the form of frequency of service (and therefore waiting costs), and sometimes in the form of lengthy ground travel and congestion. For example, a trip from downtown Chicago to downtown New York entails more time on the ground than in the air. It follows that efficient airport access allows greater gains from trade. Similarly, locating initial origins and final destinations closer to airports, whether in the form of rapid ground transport or an airport city or in the form of more rapid on-airport processing, decreases overall costs and increases the potential gains from trade.

Reducing the overall costs of producing, transporting, and consuming, increases overall welfare because more needs can be satisfied. The value of aviation lies in reducing those costs by contributing to a system that decreases the overall door-to-door costs of transportation (reducing the melting) giving least-cost producers greater market access, thereby increasing the overall value of trade. Despite the large concentrations of employment at airports –Frankfurt Airport is reportedly the largest employment location in all Germany while in the U.S. many airports have sufficient employment to qualify as the central county of a metropolitan area – the economic advantage of aviation is in the money saved, not the money spent. Those savings catalyze increased welfare.

The gains from trade have costs. Introductory economics remind us that the gains from trade result in economic restructuring, which, in turn, imposes costs on some. These are often ignored in studies of economic impact. It is ironic that one of the clearest statements of the gains from trade, with a very clear and detailed accounting of the benefits of aviation-enabled trade, set out to document its costs (Froebel, Heinrichs, and Krey, 1980). Even in the few cases when the gains from trade are considered by airport economic impact studies, the costs are ignored. In addition, inappropriate baselines for comparison may be used. Valid measures of economic benefit can improve investment decision-making.

3 The market geography of the new service sector

By bringing places closer together through reducing overall transportation and logistics costs, aviation has enlarged the geographic scope of markets firms can serve. One consequence of the enlargement of market areas has been the rise of producer services to coordinate and support production. Figure 2 summarizes that restructuring over the 1947-2006 period for the U.S. economy. As a result, contemporary knowledge-based firms, particularly those engaged in producer services and in advanced manufacturing, with a broad spatial reach but narrow market niches are replacing local spatial (near) monopolies with broad functional ranges to produce larger, inter-penetrating market areas of specialized firms. At the extreme, every firm could have a global monopoly on the sale of a very narrowly defined product (Dixit and Stiglitz, 1977). Further specialization will likely continue as long as the revenue gains outweigh the additional costs of travel.

A basic prediction of urban theory is that the reduction in effective transportation costs brought about by air service would lead to the concentration of economic activity and employment in the largest markets. Accordingly, some urban researchers have predicted an economy with low transportation costs to create a system of dominating world cities. Yet a decline in transportation costs can also lead to selective geographic dispersion with an interaction between regional resources, including labour supply, amenities, and transport costs determining location patterns.

Economic activity consumes land. Accordingly, economic activity moves to the urban periphery – to places such as Tysons Corners near Washington D.C. and then farther and farther out in the fringe areas of the largest metropolitan areas resulting in the formation of edge (Garreau, 1991) and edgeless (Lang, 2003) cities. Table 1 shows that over the past 25 years, the most prominent spatial redistribution of economic activity in the U.S. has been to the periphery of the largest metropolitan areas. Large cities expand to the point that further additions are no longer cost-effective. For historical reasons, many large cities have a mix of sectors, which has been favoured by developments in the global economy over the past several decades, sometimes generating a resurgence of centre city employment growth. At the same time, those cities have unfavourable cost structures, increasing housing (and thus labour) costs. As the white collar and professional work forces have grown with the restructuring shown in Figure 2, those costs have become increasingly salient, prompting firms to consider relocating to less costly areas.

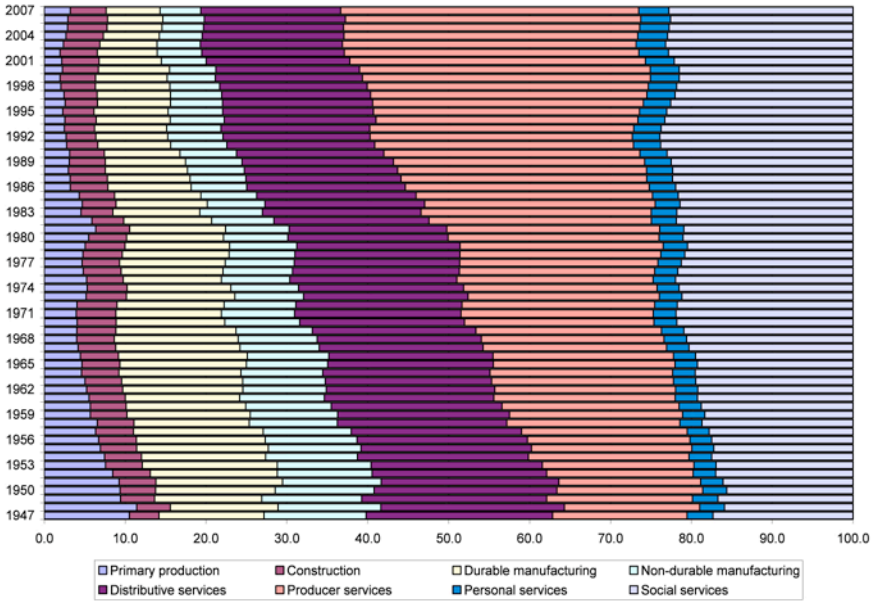

Fig. 2: Sectoral distribution of value-added in the U.S. economy, 1947-2006

Organizational design as well as transport costs impact geographic redistribution. As work processes become routinised and institutionalized, a geographical spin-off may become feasible. Locations distant from the largest cities may offer sufficient labour cost advantages to justify the increased travel required for coordination and management. Low-skill economic activities were among the first to relocate from core regions. Rail, road, and water were critical catalysts for the peripheralisation of goods production (Hoover and Vernon, 1959; Vernon, 1966).

As progressively more highly-skilled activities have been routinised and the work processes institutionalized, air transport has become central in the movement of high-skill office functions, such as research and development, and headquarters away from the largest cities leading to cost savings without sacrificing communication and contact. Today, a manager from, IBM's New York headquarters can catch a morning flight to Raleigh-Durham, meet with executives, and then return to New York for an early afternoon meeting. Initial investigations suggest that someone who only needed to meet with his or her New York-based superior every two weeks or so, might prefer living in a less-costly, amenity-rich area many hundred miles away and flying in for an occasional day trip to living in New York. Of course, while affordable air fare is a key aspect of such decisions, so are other factors, such as the depth of the local labour market, the cost of living, and amenities.

Type of county	# of counties	Personal income 1969-1970	Personal income 2005-2006	Population 1969	Population 2006	Relative income growth	Relative population growth	Income growth / population growth
All	3,068	797,104,387	10,553,267,107	200,221,967	296,715,625	1.0000	1.0000	1.0000
Large metropolitan	181	391,352,311	4,959,477,311	83,967,730	118,263,909	0.9572	0.9504	1.0071
Central large metro	49	274,503,706	3,040,389,970	59,441,795	74,940,790	0.8366	0.8507	0.9834
Fringe large metro	132	116,848,605	1,919,087,341	24,525,935	43,323,119	1.2405	1.1920	1.0407
Medium metro	260	177,601,173	2,526,175,073	45,285,068	72,224,939	1.0744	1.0762	0.9983
Small metro	185	60,918,317	888,814,246	17,166,316	28,251,351	1.1020	1.1105	0.9923
Large rural, adjacent	172	43,481,541	594,956,865	12,509,025	19,682,739	1.0335	1.0618	0.9734
Large rural, non-adjacent	147	26,580,543	333,378,748	8,211,408	11,514,282	0.9473	0.9462	1.0012
Medium rural, adjacent	553	39,457,205	544,759,298	12,986,616	19,976,172	1.0428	1.0380	1.0047
Medium rural, non-adjacent	722	39,758,385	454,056,232	13,520,754	17,270,967	0.8626	0.8620	1.0007
Small rural, adjacent	240	6,275,586	103,625,662	2,263,033	3,848,783	1.2472	1.1476	1.0868
Small rural, non-adjacent	608	11,679,329	148,023,675	4,312,017	5,682,483	0.9573	0.8893	1.0765
Metro-non-metro								
non-metro	2,442	167,232,587	2,178,800,478	53,802,853	77,975,426	0.9841	0.9780	1.0062
metro	626	629,871,800	8,374,466,629	146,419,114	218,740,199	1.0042	1.0081	0.9962
All	100.00%	100.00%	100.00%	100.00%	100.00%			
Large metropolitan	5.90%	49.10%	46.99%	41.94%	39.86%			
Central large metro	1.60%	34.44%	28.81%	29.69%	25.26%			
Fringe large metro	4.30%	14.66%	18.18%	12.25%	14.60%			
Medium metro	8.47%	22.28%	23.94%	22.62%	24.34%			
Small metro	6.03%	7.64%	8.42%	8.57%	9.52%			
Large rural, adjacent	5.61%	5.45%	5.64%	6.25%	6.63%			
Large rural, non-adjacent	4.79%	3.33%	3.16%	4.10%	3.88%			
Medium rural, adjacent	18.02%	4.95%	5.16%	6.49%	6.73%			
Medium rural, non-adjacent	23.53%	4.99%	4.30%	6.75%	5.82%			
Small rural, adjacent	7.82%	0.79%	0.98%	1.13%	1.30%			
Small rural, non-adjacent	19.82%	1.47%	1.40%	2.15%	1.92%			
Metro-non-metro								
non-metro	79.60%	20.98%	20.65%	26.87%	26.28%			
metro	20.40%	79.02%	79.35%	73.13%	73.72%			

Counties classified according to Calvin Beale's (U.S. DoA ERS) categorization
Some independent cities combined with their adjacent county

Tab 1: Income and population growth 1969-70 to 2005-06 by county type

Commercial aviation reduces the advantages of a central location while, in combination with local resources and the accidents of history, decreasing the penalties of a peripheral location to the point that even headquarters functions can function effectively away from large cities. Accordingly, as air travel has become increasingly integrated into the business process over the past half century, New York City, Los Angeles, and Chicago have declined in importance as locations for large corporate headquarters. Table 2 shows that Fortune 500 headquarters have become less concentrated in the very largest cities and less concentrated overall. Some of the most innovative and information-intensive international firms, such as WalMart and SAP, are headquartered far from gateway airports.

	1955		1970		1980		1990		2000		2007	
		#		#		#		#		#		#
1	New York	142	New York	117	New York	81	New York	43	New York	41	New York	45
2	Chicago	50	Chicago	39	Chicago	25	Chicago	22	Houston	20	Houston	22
3	Pittsburgh	25	Cleveland	15	Pittsburgh	16	Dallas	15	Chicago	13	Atlanta	12
4	Philadelphia	20	Pittsburgh	15	Stamford, CT	15	Houston	14	Atlanta	12	Chicago	11
5	Detroit	20	Los Angeles	13	Los Angeles	12	Cleveland	13	Pittsburgh	8	Dallas	11
6	Cleveland	16	Philadelphia	11	Houston	12	Pittsburgh	12	San Francisco	8	Philadelphia	8
7	Los Angeles	14	Milwaukee	9	St. Louis	11	Atlanta	9	Cleveland	7	Minneapolis	8
8	St. Louis	12	St. Louis	9	Dallas	11	Los Angeles	9	St. Louis	7	Pittsburgh	7
9	San Francisco	11	Detroit	8	Cleveland	9	St. Louis	9	Los Angeles	7	St. Louis	7
10	Minneapolis	8	Minneapolis	8	Minneapolis	8	Minneapolis	7	Dallas	6	Charlotte	7
in Top Ten:		318		244		200		153		129 (self compliled)		138

Tab 2: Geographic distribution of U.S. fortune 500 headquarters

A comparison of the geography of two sub-sectors of producer services illustrates the diversity of redistribution. New York (Manhattan) County's earnings in finance, insurance, and real estate (FIRE) grew faster than the national average between 1969-1970 and 1999-2000, supporting the global cities hypothesis. However, Table 3 shows that twelve counties, which were prominent centres of FIRE activity, (as defined by earnings in 1969-1970) grew even faster, leading to a net redistribution of the sector. Earnings in one county grew at more than three times the national average and at more than twice in another two. In 1969-1970, Dallas County, which was the largest of the rapidly growing counties in 1969-1970, could claim earnings of only one-tenth that of New York. Dallas' share of the sector grew disproportionately.

Table 4 displays similar information for the more diverse residual category of business services. Based on total earnings, New York (Manhattan) County was dominant in this sector in 1969-1070. Based on total earnings, it was nearly twice as important as the next most-important county in 1969-1970, Los Angeles. By 1999-2000, New York was still the most important but several other counties, including Los Angeles, Santa Clara (Silicon Valley), and King (Seattle area), were nearly as large. Cook (Chicago) and Dallas Counties followed closely.

The growth of business services outside New York began from a low base. Moreover, the redistribution of headquarters, FIRE earnings, and business service income was from a very large dominant city to somewhat smaller, but still large, cities. It might be tempting to claim that the highest skill work remains in New York – and much of it may be – but, until very recently, Charlotte, North Carolina was ranked as the second-largest centre of banking deposits.

Rank in 1969-1970	County Name	F.I.R.E. Earnings 1969-1970	1999-2000	Growth relative to base year	Growth relative to average
1	New York, New York	4,813,474	95,403,756	19.8201	1.1430
2	Los Angeles, California	1,810,337	22,148,590	12.2345	0.7056
3	Cook, Illinois	1,692,124	23,329,522	13.7871	0.7951
4	San Francisco, California	735,362	11,383,985	15.4808	0.8928
5	Suffolk, Massachusetts	678,930	12,328,276	18.1584	1.0472
6	Philadelphia, Pennsylvania	658,522	3,918,134	5.9499	0.3431
7	Wayne, Michigan	598,608	2,780,539	4.6450	0.2679
8	Dallas, Texas	478,921	11,208,542	23.4037	1.3497
9	Essex, New Jersey	413,126	3,491,181	8.4507	0.4874
10	Hartford, Connecticut	411,198	6,055,533	14.7266	0.8493
11	Harris, Texas	410,330	10,538,838	25.6838	1.4812
12	Cuyahoga, Ohio	392,675	4,411,260	11.2339	0.6479
13	Fulton, Georgia	345,302	6,346,328	18.3791	1.0599
14	Miami-Dade, Florida	334,165	5,489,341	16.4270	0.9473
15	King, Washington	333,019	5,893,635	17.6976	1.0206
16	Hennepin, Minnesota	318,507	7,273,871	22.8374	1.3170
17	Allegheny, Pennsylvania	309,384	3,979,471	12.8626	0.7418
18	Baltimore (City), Maryland	297,136	2,904,741	9.7758	0.5638
19	District of Columbia	296,494	2,967,720	10.0094	0.5772
20	Nassau, New York	278,732	5,501,192	19.7365	1.1382
21	Marion, Indiana	253,984	2,775,206	10.9267	0.6301
22	Milwaukee, Wisconsin	246,805	2,675,902	10.8422	0.6253
23	Kings, New York	245,006	3,260,511	13.3079	0.7675
24	Orange, California	243,706	10,074,264	41.3378	2.3839
25	Jackson, Missouri	234,332	2,498,582	10.6626	0.6149
26	Hamilton, Ohio	219,174	2,563,356	11.6955	0.6745
27	St. Louis (City), Missouri	215,174	1,418,192	6.5909	0.3801
28	Franklin, Ohio	213,554	4,041,473	18.9248	1.0914
29	Denver, Colorado	213,069	3,759,325	17.6437	1.0175
30	Maricopa, Arizona	204,534	8,412,113	41.1282	2.3718
31	Queens, New York	202,304	2,258,802	11.1654	0.6439
32	San Diego, California	200,376	5,925,351	29.5712	1.7054
33	Westchester, New York	198,464	4,519,026	22.7701	1.3131
34	Multnomah, Oregon	187,768	2,212,603	11.7837	0.6796
35	Orleans, Louisiana	185,510	896,192	4.8310	0.2786
36	Alameda, California	185,147	2,053,881	11.0933	0.6397
37	Erie, New York	162,514	1,830,122	11.2614	0.6494
38	Richmond (City), Virginia	160,447	2,734,679	17.0442	0.9829
39	St. Louis, Missouri	156,004	3,867,722	24.7925	1.4298
40	Middlesex, Massachusetts	155,769	3,044,013	19.5418	1.1270
41	Davidson, Tennessee	152,329	2,056,861	13.5028	0.7787
42	Duval, Florida	151,839	3,341,574	22.0074	1.2692
43	Santa Clara, California	146,612	3,359,432	22.9138	1.3214
44	Jefferson, Kentucky	143,431	1,751,629	12.2123	0.7043
45	Fairfield, Connecticut	141,380	7,970,560	56.3771	3.2512
46	Bexar, Texas	140,705	3,344,782	23.7716	1.3709
47	Ramsey, Minnesota	132,999	1,556,172	11.7006	0.6748
48	Jefferson, Alabama	132,564	1,898,301	14.3199	0.8258
49	Broward, Florida	130,940	3,384,292	25.8461	1.4905
50	Polk, Iowa	130,880	2,344,490	17.9133	1.0331

Tab 3: Largest 50 counties by 1969-1970 earnings in finance, insurance and real estate

Specialization requires frequent contact across long distances, whether engineers are being ferried aboard the "nerd birds" that connect distant high technology clusters or investment bankers are speeding between appointments in far-flung financial centres or IT consultants are commuting on early Monday and late Thursday flights. In the process, cities shift from being central places to being open spaces. The restructured economy has undoubtedly benefited the largest cities but selected second-tier cities and high-amenity areas have benefitted more.

4 Regionalization and the rise of airport cities

Airport cities are sometimes seen as a product of globalization. Commercial aviation certainly has been a tremendous aid to the globalization process. Conversely, globalization may be responsible for the rise of airport cities in greenfield development. However, it is not clear that immediate airport proximity is a salient factor in firm location decisions in mature cities when inter-continental trips are common. Japanese firms and seconded Japanese nationals in New York, concentrating in the area of the metropolitan region farthest from JFK Airport, have generally let residential amenities outweigh airport access in making location decisions.

Direct access may be a salient location factor when an airport area location has a significant impact on the length of a trip by eliminating or reducing the need for overnight stays. Consequently, airport cities may offer their most significant competitive advantages in Europe and North America when business flights average an hour or two in length. Simulations of market reachability on single-day trips, shown in Figure 3, suggest that airport cities can amplify the impact of the benefit of commercial aviation in such cases. Naturally, the costs of reaching customers increase with distance, so only some of the non-local business opportunities are viable but, at moderate flight distances, a location near an airport can significantly increase a firm's market size

Rank in 1969-1970	County Name	F.I.R.E. Earnings 1969-1970	1999-2000	Growth relative to base year	Growth relative to average
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42	Duval, Florida	151,839	3,341,574	22.0074	1.2692
43	Santa Clara, California	146,612	3,359,432	22.9138	1.3214
44	Jefferson, Kentucky	143,431	1,751,629	12.2123	0.7043
45	Fairfield, Connecticut	141,380	7,970,560	56.3771	3.2512
46	Bexar, Texas	140,705	3,344,782	23.7716	1.3709
47	Ramsey, Minnesota	132,999	1,556,172	11.7006	0.6748
48	Jefferson, Alabama	132,564	1,898,301	14.3199	0.8258
49	Broward, Florida	130,940	3,384,292	25.8461	1.4905
50	Polk, Iowa	130,880	2,344,490	17.9133	1.0331

Tab 4: Largest 50 counties by 1969-1970 earnings in business services

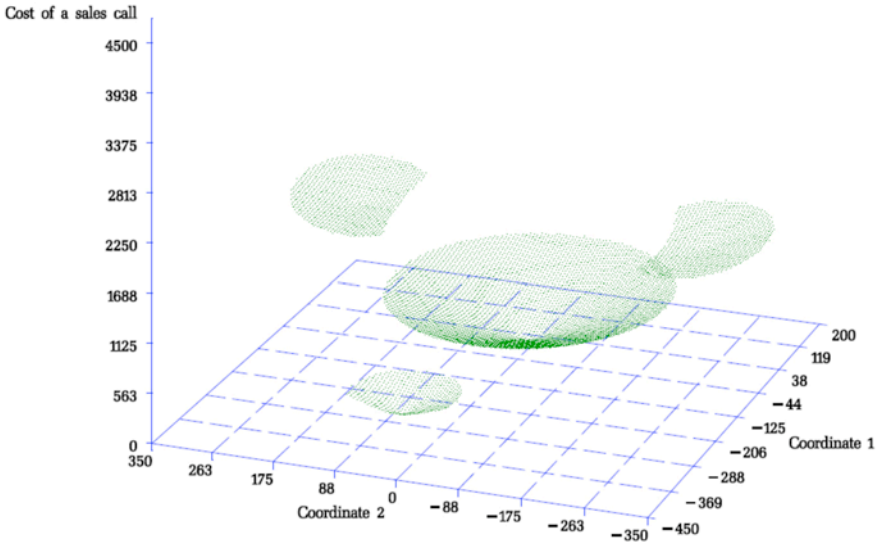

Fig. 3: Simulation of potential costs of a sales call using automobile and air transport

The simulations also suggest that the benefit of an airport city location to a small number of firms is low. The market access benefit increases markedly when distant customers are located near their respective airports. Ironically, the benefit of locating in a particular airport city depends critically on the growth of distant airport cities, as central places become open spaces.

A comparison of the local point of origin of frequent fliers for two airports in the San Francisco region corroborates the role of regional, rather than global, air linkages in creating dense agglomerations around airports. Figure 4 shows the regional geographic origins of frequent fliers at San Francisco International Airport (SFO). The larger the circle, the more frequently the respondent had used SFO over the previous year. SFO serves many distant, often international, destinations and draws frequent fliers from a large geographic catchment area. Corresponding data for San Jose Airport (SJC), which serves mainly regional destinations, is shown in Figure 5. Fliers, especially frequent fliers, are so tightly packed around SJC that they obscure its location. Airport cities matter more for shorter trips than longer trips because the ground portion of the trip is a greater proportion of the total travel, as suggested by the New York-Chicago example above.

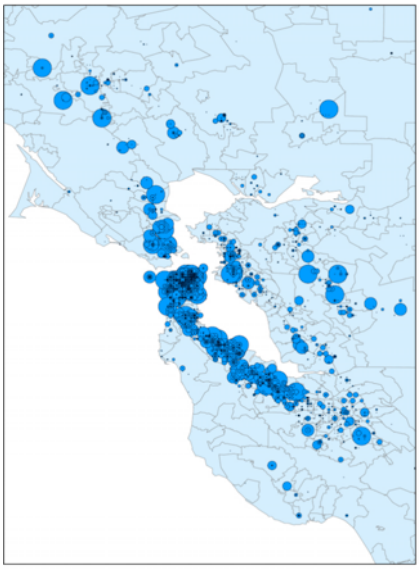

Fig. 4: Origins of passengers flying through SFO

Fig. 5: Origins of passengers flying through SJC

5 Conclusion

In summary, aviation researchers have been looking in all the wrong places in attempting to measure the economic impact of commercial aviation and of airports. First, commonly used indicators of economic impact measure the costs of trade rather than net gains from trade. These could match if economies of scale and the nature of competition were simpler but it is likely that much of the benefit of airports is hidden in what economists term a “consumer surplus.” The size of the consumer surplus is unknown but probably significant. This implies that the long-run demand for aviation may be less price sensitive than the short-run effects.

Second, aviation researchers look to global cities, rather than further down the urban hierarchy, possibly even at selected “spokes” in aviation network instead of at core hub cities to see the strongest effect of aviation. To be sure, air transport has benefited some large core cities but it has advantaged some formerly remote cities even more. Amsterdam, London, and New York were centres of the world system before air travel was prevalent, or even possible (Wallerstein, 1974). Air transport has a “flattening” effect.

Third, aviation researchers look at globalization rather than regionalization. Globalization and global air flows are clearly important, yet most air-enabled trade and travel is within intra-continental regions. The growth of mega-regions, linked in part by air throughout a continent, appears to be much more important in the growth of airport cities in Europe and North America than globalization. While there are some who might fly from Asia for a brief few-hour meeting in Europe before flying on to North America, even for most frequent fliers, the extra hour or so to reach a downtown hotel after a long flight is not especially salient. On the other hand, if there is a chance to make it back home in the evening, then the time savings could be critical.

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References

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