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Air Routes as Economic Development Levers

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In his influential recent book, *The World Is Flat*, Thomas Friedman makes it clear that an increasingly fast-paced, globally networked economy is changing the rules of business location. These rules are being altered by a catalytic convergence of digitalization, globalization, aviation, and time-based competition. Speed, agility, and connectivity have become the mantra of many of the world's most successful firms.

The combined importance of these factors is creating a new economic geography with aviation networks driving and shaping business location and economic development in the 21st century as much as highways did the 20th century, railroads in the 19th, and rivers and seaports in the 18th. As a result, commercial airports and their surrounding areas have become magnets for time-critical manufacturing, distribution, entertainment, tourism and other enterprises that require speedy connectivity to distant suppliers, customers, clients and partners nationally and worldwide.

Air routes, in fact, operate as a physical Internet connecting supply chains, business people, and tourists quickly and efficiently across far-flung locations. The upshot is that route development, business development, and regional economic development go hand-in-hand around the globe.

A 2004 study by ACI and York Consulting on The Social and Economic Impact of

Airports in Europe reported that global air accessibility was a key factor in the business location and commercial success in all European regions. The study reports that 31% of companies relocating to the Munich region cited the airport as the primary factor in their location decision. The study further found that 80% of manufacturing companies in the Hamburg region depended on air service connections in getting customers to look at their products. It also found that accessibility to Charles de Gaulle Airport was pivotal to the location of multinational corporate headquarters in the Paris region as well as to firms engaged in high-tech and other innovative industries.

Route Economic Impacts Are Immense

The annual economic impacts of airports and air service on a metropolitan region's economy have been well documented. Depending upon which impacts are included in the study (direct, indirect, induced, and catalytic), the amounts vary, but for hub airports they are huge, often reaching between US$20 billion and US$60 billion annually. Direct effects measure the economic impact of personnel employed by the airport or on airport property. Indirect effects are those of off-airport employees and expenditures linked to air service such as lodging, taxis, and travel agencies. Induced effects are additional employment and business revenues generated by the expenditures of those directly and indirectly employed as a result of the air service. Catalytic effects are the employment and business revenues generated by firms which locate in the greater airport region because of the accessibility air service provides to the firm's suppliers and customers. Some studies also classify in-bound tourism as a catalytic effect.

In 2005, consulting firm SH&E computed the direct, indirect, and induced effects of a single daily flight to Denver International Airport from three foreign sites: Mexico, Europe, and Asia. The flight from Mexico would generate $25.7 million annually for the Denver region; the flight from Europe $90.6 million annually, and the flight from Asia $142.4 million annually. The differences were due largely to the size of the aircraft serving Denver.

When catalytic effects are included, the regional economic impact of international flights jumps considerably. A 2007 study by consulting firm LAED of the impact of LAX overseas flights on Southern California's economy revealed that each Asian and European flight in 2006 created, on average, 3,126 jobs in the region, $156 million in annual wages, and $623 million in annual revenues to the region's businesses.

Spreading the Benefits

These economic impacts often result in greater concentrations of employment opportunity, business revenues, and wealth in hub regions. For developing nations such as Brazil, China, India, and Thailand, however, policy objectives are geared to dispersing economic development away from their megacity regions to outlying provinces. Substantial incentives are thus provided by governments to attract investment to their more remote provincial regions.

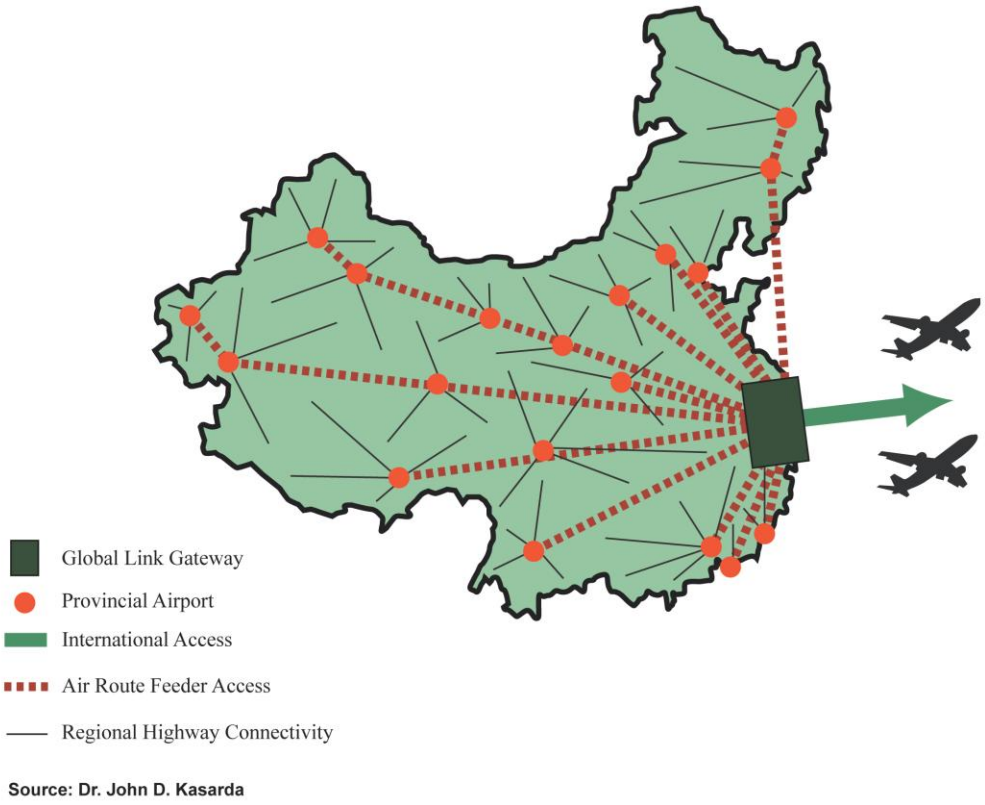
Success has been limited. Firms, especially those that have time-sensitive supply chains, and businesses that require regular personal contact are precluded from investing in locations with poor connectivity. Tourists are also often dissuaded from visiting such areas, as well. Given the great distances of some provinces from hub

regions, providing adequate surface transportation accessibility to global gateways is prohibitively expensive and could take decades. Moreover, surface travel time to distant provinces would often be too long, even if such infrastructure were constructed.

China is an especially good example. A primary reason modern industries such as microelectronics, pharmaceuticals and digitized automotive components have not dispersed to China's interior provinces is that the time required for their receiving and shipping parts and finished goods far exceeds acceptable parameters. With multiple daily flights connecting provincial cities to a global gateway (such as Shanghai-Pudong), the accessibility disadvantage for time-sensitive industries (including perishables) could be substantially reduced.

Providing upgraded regional highway linkages to provincial city airports, as illustrated in Figure 1, could further disperse economic development. Industries located up to three hours trucking time from the airport could often complete a full day's production, truck it to the provincial city airport, and be connected to world markets within 24 to 48 hours through the global link gateway.

Figure 1



Meeting Policy Objectives

Creating better air accessibility for provincial cities to distant markets via the global link system may be an effective way to attract modern industries to outlying provinces and boost their exports of high-value perishables. This could help achieve national government policy objectives to raise provincial employment, slow worker migration to megacities, and reduce growing income inequality between the megacities and distant provinces. In addition to helping attain these policy goals, the global link system could make the provinces more competitive overall by allowing their firms to produce goods at lower costs than megacity hubs, benefiting them the same way Western-based

industries have profited by outsourcing manufacturing to China, despite additional transportation time and costs they assume compared to producing domestically.

Conclusions

With timely international accessibility essential to competitive siting of many 21st century firms, the Global Link System can be a potent policy lever for nations to develop their provincial regions. Traditional government financial incentives which have not worked in attracting modern industries to the provinces may be productively redirected to incentivizing air routes that would better connect provincial firms to their suppliers and customers.

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