Canadian airline industry.<sup>80</sup> They distinguished between cost economies of network size and cost economies of traffic density. Network economies would occur if adding additional cities to an airline network allowed cost per passenger to fall.<sup>81</sup> The evidence suggests that in the range of carriers the size of Air Canada or Canadian Airlines International Limited (CAI), such economies do not exist.

Economies of traffic density would occur if cost per passenger drops when a carrier experiences an increase in traffic in a network of a given size. 82 Gillen, Stanbury and Tretheway (1988) found that the minimum efficient traffic density for an air carrier is about that of Canadian Airlines International Ltd. Smaller carriers are likely to operate with higher unit costs, unless they can confine their service to a handful of cities and provide very large volumes of service between these cities.

Airline hubs are alleged to be barriers to entry. Section II.F already discussed how hubs lever the effect of adding new stations. The example was given of how increasing the number of stations by 50%, from 9 to 14, increases the number of city pairs served by more than 100%, from 45 to 105. When applied to U.S. hubs, such as American's 100 city hub at Dallas-Fort Worth, the traffic generating potential of an additional city can be awesome. Relatively small amounts of traffic can justify frequent daily services. A new entrant to a city pair market connected to a major hub would be unable to replicate the network of the hub carrier, and thus would be confined to a small portion of the market. Air Canada has cited this as a problem it faces in competing with

<sup>80</sup> Gillen, Oum and Tretheway (1986).

<sup>81</sup> This assumes that the amount of traffic per city is unchanged after the addition.

<sup>&</sup>lt;sup>82</sup> This would be because fixed station costs can be spread out over more passengers, larger sized aircraft could be used, etc.

<sup>83</sup> See Levine (1987), pp. 412-413.