

## AN EMPIRICAL EXAMINATION OF ECONOMIES OF SCALE IN THE ASIAN AIRLINE INDUSTRY

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### ABSTRACT

*According to the Air Travel Association (IATA)'s 20-Year air passenger forecast, Asia Pacific will be the biggest driver of demand from 2015 to 2035 with more than half of the new passenger traffic coming from the region. Of the five fastest-growing markets in terms of additional passengers per year over the forecast period, four will be from Asia. With the growth of air traffic in Asia, airline industry in Asia is bound to grow rapidly in terms of size. This study evaluates the impact of size of an airline on cost efficiencies by evaluating economies of scale in the Asian airline industry for the period 2015 to 2019. We use translog cost function to estimate cost efficiencies in the Asian airline industry. We find that, on average, Asian airlines do experience economies of scale in terms of cost of services provided (cost of goods sold), because with every increase in size as measured by total assets as well as by total operating revenue, cost of services provided increases less than proportionately. Asian airlines also experience significant economies of scale in selling, general, and administrative expenses when size is measured in terms of total assets, but they experience significant diseconomies of scale when size is measured in terms of total operating revenue.*

**Keywords:** economies of scale; operating revenue; airline industry, translog cost function, cost efficiencies,

### 1. INTRODUCTION

As the aviation industry continues to snowball over the next two decades, increasing demand for airline seats will surpass the supply of pilots. The most significant shortage will be in the Asian market, where airlines have more new orders than anywhere else when it comes to purchasing and leasing plans. Despite the surge in air travel in Asia, only 6 of the 20 publicly traded airlines based in the region made a profit in the last reported quarter of 2018 (<https://www.scmp.com/week-asia/economics/article/2184740/asias-aviation-industry-booming-so-why-isnt-it-making-money>). The main reason for the lack of profitability is intense competition within the industry. Airlines are not able to increase fares despite higher demand for air travel. As a result, airlines are looking for ways to become leaner and more cost-efficient to improve profitability through restructuring and reorganizations by entering into alliances, mergers, and acquisitions. During this process of restructuring and reorganization, airline industry has learned that market share alone is not enough to survive and compete in this highly competitive market. Instead, they also need profitability by emphasizing and obtaining a better rate of return on capital through improvement in load factor and cost efficiencies. The goal of this new emphasis on profitability and better rate of return is to focus on cost reduction with the goal of earning a rate of return that is higher than the cost of capital so that these decisions add long-term value to the company. Airline alliances, mergers and acquisitions in the airline industry have been driven by this desire to reduce costs and improve the rate of return. The goal is to benefit from economies of scale.

In this study, we evaluate cost efficiencies through economies of scale over a period of five years from 2015 to 2019. The study is important for several reasons.

Firstly, in the wake of the growth of air travel and the airline industry in Asia, size and scale have become more critical than ever. As airlines in Asia increase in size, it is important to analyze the impact of size on their operating efficiencies.

Secondly, the study will help regulators understand the impact of mergers on the cost reduction and profitability of companies. Companies usually argue that they need to merge because it helps them improve their operating efficiency and profitability.