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Short Communication

Even in a Duopoly Performance Matters

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Abstract

Within the airframe manufacturing industry will the growth in the demand for air travel attract new competitors, changing the current duopoly into an oligopoly. Another possibility is the emergence of one dominant airframe manufacturer creating a monopoly.

Keywords: Duopoly, Monopoly, Oligopoly.

INTRODUCTION

Oligopoly to Duopoly in the Commercial Airframe Market

Post 1950 the commercial airframe manufacturing industry evolved into an oligopoly dominated by American and European firms. However, by 1997 the industry had consolidated into two dominant firms: Boeing and Airbus. The consolidation was the outcome of the economic difficulties of the airline industry as well as the significant cost to develop multiple airframe varieties to meet the needs of airlines for short haul (narrow body) versus long haul (wide body) as well as passenger capacity. Given the long development time and the excessive cost. The market demand for airframes could only support a limited number of manufacturers. The industry consolidated to Boeing and Airbus (a consortium of European manufacturers) as the sole suppliers of planes seating more than 120 passengers. Both offered a range of models to meet airline needs to cover varying routes. Boeing was the dominant player with about 60% of this market (Dranove et al., 2017). Boeings early dominance was due to their longer standing reputation and volume of planes in service.

Bombardier, Embraer, and ATR controlled the market for

planes under 120 passengers. Regional carriers used these planes, and larger carriers utilized these smaller planes to offer more departures with smaller plane capacity than fewer departures with larger planes. Airbus purchased a controlling stake in Bombardier. Boeing at one point expressed an interest in the acquisition of Embraer but after a long negotiating period Boeing withdrew their proposal.

The airframe manufacturing industry had evolved into a multi-product Cournot model with limited markups (Economist, 2024), (Heard on the Street, 2024A). Boeing and Airbus established their manufacturing capacity to produce each model of their airframe and competed through discounting from the listed price. Boeing and Airbus offered multiple airframe models with little differentiation between the Boeing narrow body models. In wide bodies the Boeing 777 and Boeing 787 were the alternative to the Airbus 350 and Airbus 380.

Barriers to Entry

Over the years the demand for air travel expanded. The middle east, China, and India saw significant new airline startups. In addition, existing airline fleets needed more efficient planes. These developments created the possibility for new airframe manufacturers to compete

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for this expected demand growth. Russian, Chinese, and Japanese manufacturers attempted to enter the market. After two decades of development and significant investment the Japanese abandoned the chase once they realized sales would not recover their cost of development. Russia produced a range of models but issues surrounding the reliability and performance of the planes and parts, the planes had minimal demand outside of Russia. The Chinese manufacturer (COMAC) produced one model (C919). COMAC offered excellent pricing and financing options but sales to date have been to Chinese airlines (Heard on the Street, 2024B), (Kraft & Kraft, 2024A). One significant barrier to entry for new airframe manufacturers was the limited number of jet engine manufacturers: GE Aerospace, Rolls Royce, RTX Corporation (Pratt & Whitney) and Safran. The engine suppliers experienced significant production delays, and any existing engine production was contractually committed to fulfilling the order books of Boeing and Airbus (Kraft & Kraft, 2024B). The design of the new plane took a decade of development as well as a significant financial investment. The payback period for new model required significant sales. These market conditions as well as endogenous strategies of Boeing and Airbus protected the duopoly.

The Duopoly

Boeing and Airbus both offered matching or paired choices to meet airlines' needs for a variety of plane models. While both were multiproduct firms, there was little differentiation in their product offerings. Boeing and Airbus established and expanded production as demand grew, and both shifted to significant outsourcing to reduce costs or to meet local content requirements to sell to airlines within a particular country (Lerner & Pavenik, 2001), (Magnolfi et al., 2022).

Pilot training costs, the need for replacement parts, and prior order book commitments caused airlines to restrict future orders to a single airframe manufacturer and jet engine supplier. Since both Boeing and Airbus have order books extending out ten years, any airline cancelling an order faced a significant wait for delivery from a rival.

Even though Boeing and Airbus were a duopoly, they competed on price. Airline orders were for a sizable number of planes and were infrequent. The lumpy nature of the orders created a significant win loss situation for Boeing or Airbus. The infrequency of orders reduced direct interaction and reduced tit for tat discounted pricing. Boeing and Airbus discounted their list price and booked deliveries years into the future. Since airlines had the option to cancel booked deliveries, the airframe manufacture limited the size of the discount.

Current airframe models within an aircraft class competed primarily on operating efficiency and flying distance.

Development of a replacement model approached \$10 billion and took ten years. To breakeven Boeing or Airbus needed to sell almost five hundred planes for new aircraft model. Recent R&D investments in both improved production processes and new product development by both manufacturers have been less than efficient. This caused significant delays and rework (Ollenyk et al., 2011).

In the early years Boeing was the dominant player. Boeing's dominance was due to a long history with customers, better engineering and development, and significant scale as well as learning economies. Boeing was known for reliability and timely delivery. However, times have changed. Currently, Boeing's market share has declined, and Airbus has the dominant share of deliveries. Since 2018 Airbus delivered more planes per year than Boeing.

What Went Wrong for Boeing

After the acquisition of McDonald Douglas in 1997, Boeing began a gradual shift in operating philosophy. Boeing increased outsourcing and reduced development costs to improve profits. The Boeing 787 was a replacement for the Boeing 747 and positioned as the primary competition for the Airbus 380.

The 787, while having a smaller seat capacity, operated with a significantly longer range, better fuel economy, and lower operating cost. The 787 was a complicated plane to develop, engineer and manufacture. As a result, Boeing delayed the delivery of the 787 several years and resulted in billions of dollars of cost overruns. Boeing outsourced much of the design, engineering, and production for the 787 to reduce costs, gain access to specialized inputs, take advantage of skilled labor, meet local content requirements, and share risk with its suppliers.

Once completed Boeing planned to integrate the components as it assembled the plane. The extensive outsourcing by Boeing significantly reduced any learning curve cost savings. Unfortunately, the capabilities of the subcontractors were way below Boeings expectations and resulted in delays and cost increases that eroded any expected cost savings. Boeing outsourced 70% of the 787 (more than double the outsourcing for the 777). In the end, Boeing had to take over the work. Boeing delivered the 787 five years late and billions over cost. The 787 continued to experience production delays and operating problems.

The problems did not end for Boeing. Boeing experienced significant operational issues with the 737 upgrade. Rather than develop a new replacement for the 737, Boeing decided to modify the 737 with the 737 max. The 737 max experienced two fatal crashes and a door blowout on an Alaska Airlines plane. These reliability issues resulted in significant production shutdowns, fines, and delivery rebates to customers. In addition, the 777 production

experienced difficulties and delays. To improve performance Boeing acquired subcontractors including Spirit Aerospace Systems, the primary supplier for the 737 max.

While Airbus was not immune to supply chain issues, such problems were not to the extent of those suffered by Boeing. Both Boeing and Airbus experienced significant supply chain delays resulting in supplier deliveries significantly below capacity. At present, both Boeing and Airbus were producing below their order fulfillment due to their own problems and the delays from engine manufacturers.

The nature of the industry, the huge development and production costs, and the significant order backlog, meant there was little chance the duopoly would become a monopoly. However, even in a duopoly product reliability is important. In the Cournot duopoly, Boeing and Airbus made tough quantity commitments that were not reversible (Ray S, 2024).

CONCLUSION

Structural barriers and endogenous barriers by Boeing and Airbus have reduced the prospects for new entrants. Boeing and Airbus have both cooperated in endogenous strategies that preserved the duopoly. While dominance between the two has shifted, the Boeing-Airbus duopoly is destined to continue. Airbus benefitted more from Boeings mistakes than from any strategic decisions it made.

DISCLAIMER (ARTIFICIAL INTELLIGENCE)

Authors hereby declare that NO generative AI technologies

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REFERENCES

- Dranove, D, Besanko, D, Shanley, M, & Schaefer, S (2017). *Economics of strategy*. John Wiley & Sons.
- Economist (2024). Can China smash the Airbus Boeing duopoly.
- Heard on the Street (2024A). Jet engine manufacturers are raking in cash. *Wall Street Journal*.
- Heard on the Street (2024B). Punchy targets can't fix supply trouble for Airbus. *Wall Street Journal*.
- Kraft, A & Kraft, J (2024A). Airbus revolutionized the commercial aviation business. *J Appl Case Res*.
- Kraft, A & Kraft, J (2024B). Boeing in a steep nosedive. *J Res Int Bus Manage*.
- Lerner, D.A & Pavenik N (2001). Airbus versus Boeing revisited: international competition in the aircraft market. *National Bureau of Economic Research*.
- Magnolfi, L, Quint, D, Sullivan, C, & Waldfoegel, S. (2022). Differentiated-products Cournot attributes higher markups than Bertrand–Nash. *Econ Lett*, 219, 110804.
- Google Scholar
- Olienyk, J, & Carbaugh, R.J (2011). Boeing and airbus: Duopoly in jeopardy? *Glob Econ J*, 11(1).
- Google Scholar
- Ray, S (2024). Boeing Buying embattled 737 supplier Spirit Aerosystems for \$4.7 billion. *Forbes*.