ECN230 Case Studies on Trade Issues: On Imperfect Competition

DUOPOLY ON THE INTERNATIONAL AIRCRAFT MANUFACTURING MARKET

Examples of monopolies on the international market are hard to come by. However, the international market for manufacturing long-distance commercial aircraft has been characterized by the duopoly of Boeing and Airbus. Over its 100 year history, Boeing would become the world's largest aerospace company. The foundation of Airbus in the 1970s was a bold move to challenge American dominance of civil aviation. In the 1990s, many large aerospace companies merged across Europe (Germany, France, the UK, Italy and beyond) with state support [1].

Airbus, Europe's rival to Boeing as a commercial aircraft-maker, was supposed to become the very model of hard-headed business decision-taking and the best example of Europe's industrial co-operation. In 1999, Airbus Industrie was transformed from a marketing consortium for a group of European aircraft-makers into an integrated company. The switch was supposed to herald a more commercial approach, with committee decisions giving way to managerial clarity and a new focus on the bottom line. Factories that made the fuselage, wings and other parts were transferred from the consortium members into the new Airbus company, itself owned 80% by European Aeronautic Defence and Space (EADS) and 20% by a UK company, BAE Systems [2].

The best argument for the early subsidies that Europe's governments poured into the infant Airbus was that they prevented the emergence of a US monopoly. Taxpayers' money bought Europe an edge in a high-tech sector that sustained hundreds of thousands of well-paid jobs. Launch aid (new product development funding) for the best-selling A320 was repaid many times over by a share of sales revenue that keeps flowing into European exchequers [2].

The curse of economic nationalism

In 2005, the company hit two problems: a two-year delay to its flagship A380 super-jumbo programme and a profit squeeze caused by the strength of the euro against the dollar, in which aircraft are priced. The cumbersome twin-headed management structure with German and French co-chairmen did not simplify matters. Fedex, an express delivery service provider, became the first customer to cancel A380 orders, while Airbus revealed emergency plans to cut its suppliers from 3,000 to 500; and EADS reported a net loss in the third quarter of €195m ($250m) [2].

BEA Systems sold out in 2006, and EADS became unstable as its core German and French shareholders started selling down their stakes, while their governments bought, anxious to retain influence and protect jobs. The fear of Airbus is that a co-operative enterprise that promised to surmount economic nationalism is now being gradually killed by a dose of that very European disease. As the French Lagardère group started selling its EADS shares, a government-owned bank stepped in to buy part of it—purely, it seems, so that France would retain a bigger share than the Germans. The German government acted no differently, just less blatant: it twisted arms at Commerzbank and Deutsche Bank to do their patriotic duty to step in and buy. The Spanish government was eager to double its 5% share in EADS, in the hope of landing more Airbus manufacturing jobs. This smacked of back-door renationalisation of Airbus, exactly the opposite of the process that was supposed to have begun with the creation of EADS six years earlier [2].

There was no compelling reason why Airbus should be yoked to EADS, a weak defence company subject to government meddling. A civil aircraft business needs to be free to focus on airlines, which are very different customers from governments. EADS needed to sell Airbus, and the money to shareholders. If the French government really wanted to support aerospace jobs, it could have done so by providing cheap land, research grants and the like. Xenophobic fiddling with the share register helps nobody [2].

Airbus had difficulties in launching the Airbus A350, a wide-body jet for the long-haul market. Faced with the huge costs of launching new aircraft, Airbus needed two things: more commercial partners to share the risk; and the chance to outsource production to low-cost countries. Boeing had already gone down this route, and Airbus's intention to assemble A320s in China was a promising start. Bringing new partners into Airbus and sending more work outside Europe would always be difficult as long as governments hold stakes in its parent firm [2].

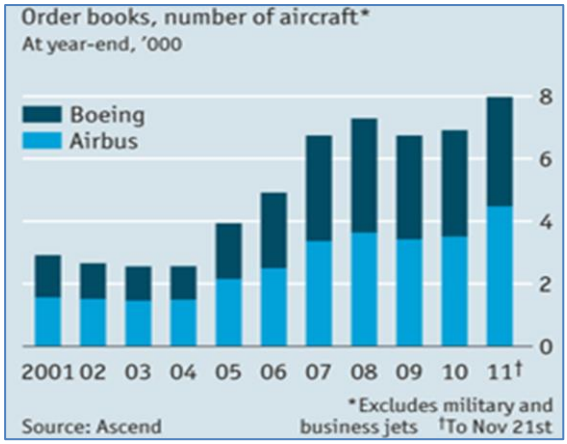
If Airbus could not proceed with its development, it would retreat from the biggest part of the market leaving it to Boeing. It is not only Airbus employees and European governments that anxiously contemplating the woes of Airbus, particularly in the wide-bodied market where Boeing's long-haul 777 and its new 787 were cleaning up. The world's airlines and their passengers have been the big winners out of the arrival of Airbus to challenge Boeing. Airbus's advance in the late 1990s forced the US manufacturer to up its game. Boeing redesigned its cabins and improved the fuel-efficiency of its aircraft [2].

In 2011, at the Dubai Air Show aircraft manufacturers received bumper orders. Qatar Airways agreed to buy 55 of Airbus's planes, worth $6.4 billion at list prices. That order was dwarfed by Emirates' $18 billion order for Boeings, with options to buy a further $8 billion-worth. As the Dubai show ended, then President Barack Obama, on a visit to Indonesia, witnessed Boeing sign a record $21.7 billion deal with Lion Air, with options to buy a further $14 billion-worth. Of course, orders this big enjoy substantial, undisclosed discounts from the listed price [3].

The two main makers of full-sized commercial jets could look forward to years of guaranteed business, with firm orders at a record (see chart, order books, number of aircraft). The order book for Airbus's short-to-medium-haul A320, for example, stretched into the 2020s. In 2000, North American carriers accounted for almost 60% of all aircraft orders; in 2011 Asian ones have overtaken them, placing 32% of the orders of planes from Boeing and Airbus combined, compared with North America's 26%. The commercial side of Boeing, which also produces military aircraft, hired 11,000 new workers [3].

If the world economy went into recession, some of the orders would be cancelled or postponed, but the new generation of planes were significantly cheaper to run than those that currently had been flying. Thus, a harsh economic climate may in fact encourage airlines to press on with renewing their fleets. American Airlines, for

example, is seeking to overcome its chronic losses with a huge programme to swap old planes for new.



Can the planemakers and their suppliers keep up? Boeing delivered the first of its long-haul 787 Dreamliners, following problems with suppliers. It promised to throttle up the programme and turn out ten a month by the end of 2013. Airbus announced further delays to its equivalent, the A350, which threatened to become as much of a "nightmareliner" as its rival's plane. However, Mr Sheridan of Ascend, an aviation consultancy, says the main worry was right back at the start of the supply chain. Many aircraft parts were made from highly specialised metals and other materials [3].

Breaking the duopoly

Nevertheless, it was an auspicious time for three emerging rivals to the Boeing-Airbus duopoly to seek to establish themselves. Canada's Bombardier, a maker of smaller "regional" jets, launched the CSeries, a rival to the Boeing 737 and Airbus A320 duopoly. At Dubai, Atlasjet of Turkey became the tenth airline to sign up for the CSeries. Comac of China and Irkut of Russia were also developing similar aircraft in the 100- to 200-seat class [3].

In 2011, China announced that it would make aircraft manufacturing a cornerstone of its "new strategic industry" plan, an upgrade in status that will lock in long-term government support for the nation's fledgling rivals to Boeing and Airbus. The move was a sign of trouble for the world's two biggest aircraft makers, which had been bracing themselves for increased competition from emerging rivals. "The days of the duopoly with Airbus are numbered," Jim Albaugh, head of Boeing's civil aircraft division, said [4].

China's decision to place greater emphasis on aircraft development had new rules that would help domestic aircraft manufacturers to provide a big slice of the 4,000 aircraft that China was expected to buy over the next 20 years, the Shanghai Securities News, an official newspaper, reported. Boeing estimated that demand from China alone for commercial aircraft could be worth $480bn over the next two decades [4].

In 2010, China said that it would direct more money and broader policy support at seven "new strategic industries", many of which have an environmental or high-tech focus such as alternative-fuel cars and biotechnology. Aerospace was included in that initial seven-industry plan within the category of "high-end equipment manufacturing" [4].

Chinese aircraft manufacturers have already received ample state funding, but there appears to be a stronger shift towards the aviation industry. China's aircraft ambitions could use an extra boost, having come up short so far. Its first passenger aircraft, the Comac ARJ21 regional jet, completed its maiden flight in 2008, three years behind schedule. Deliveries to customers were further delayed when the aircraft's wing broke during ground-based testing [4].

Magnificent seven industries on the horizon

China announced in 2010 that it wanted to develop seven "new strategic industries" (a mix of high-tech and green-tech sectors) to propel its transition from low-cost workshop of the world into producer of high-value, high-technology goods. The government said it wants the seven to have a 15% share of the economy by 2020, up from about 2% at present. The plan raises questions about how Beijing can coordinate such a sprawling investment programme. Proponents argue that the plan need not be so specific, only serving as a guide for government spending and policy development [4].

The seven "new strategic industries" are:

* Alternative fuel cars. Development of hybrid cars and electric cars as well as better fuel-cell batteries;
* Biotechnology. Includes bio-medicines, new vaccines for disease prevention, advanced medical equipment and extends to marine biology;
* Environmental and energy-saving technologies. Energy efficiency, pollution control, clean coal, waste-matter recycling and seawater usage are among the many targets of the environmental push;
* Alternative energy. Next-generation nuclear power plants, solar power, wind power, smart grids and bio-energy;
* Advanced materials. Rare earths, special-usage glass, higher-performance steel, high-performance fibres and composites, engineering plastic, nana and superconducting materials;
* New-generation information technology. Cloud computing, high-end software, virtual technology and new display systems; and
* High-end equipment manufacturing. Aircraft, high-speed rail, satellites and offshore equipment [4].

The Commercial Aircraft Corp of China (Comac), the government-owned company driving China's aircraft development, also took a more direct shot at breaking the Airbus-Boeing duopoly with its C919 narrow-body plane. Still in development, the first deliveries of the C919, which would compete against the Airbus 320 and the Boeing 737, were scheduled for 2016. Bradley Perrett, a Chinese aerospace expert at Aviation Week, said that the C919 contained advanced technology, much of it foreign-made, but that performance was "not likely to be optimal" because of Comac's inexperience as a manufacturer. Most analysts expected state backing to drive good sales in China but predicted that foreign carriers would be more reluctant to use the model. "If it is priced cheaply, and this is where subsidies come into question, it could find a market outside of China," he said [4].

The European and US aerospace and defence companies had dominated the lucrative market for narrow-body aircraft since the 1990s, but were now facing challenges not only from Chinese manufacturers but from Bombardier of Canada [4].

On 2 November 2015, COMAC, a Chinese state-owned planemaker, revealed its C919 plane, a competitor to Airbus's A320 and Boeing's 737, the two most popular airliners in the skies. COMAC said the C919 would have its maiden flight in 2016—two years later than first scheduled—and enter service around 2019, formally breaking the global duopolistic market for full-sized commercial airliners. The market, which by some estimates would be worth $4.6 trillion over the next 20 years [5].

The Chinese wee not the only ones who thought they can break the duopoly. After several delays, Irkut, part of Russia's state-owned United Aircraft Corporation (UAC), hoped to launch its MC-21 aircraft, another potential rival to the 737 and A320, into service in 2017. Many aviation analysts remained sceptical about whether these rivals, even with generous state backing, would ever put a significant dent in the bulging order books of Airbus and Boeing. The C919 would contain a great deal of Western-designed equipment—including its engines, until such time as China succeeded in a parallel venture to be a maker of world-class commercial-airliner engines. But analysts suspected that if and when it flies, its fuel efficiency would lag that of the newest versions of the Boeing 737 and Airbus A320 [5].

And although the Russians and the Chinese may well be fairly good at designing aircraft, they have little experience in creating the complex production systems and supply chains needed to build them to the extremely high standards of reliability and safety that airlines expect. The need to improve their safety record will ensure that they are "not a near-term risk" for the likes of Boeing, says Jason Gurksy, an aerospace-industry analyst at Citigroup [5].

Even Bombardier of Canada, which has a good record of safety and quality for the smaller aircraft that it makes, has struggled to break into this lucrative market. Fewer than 250 of its much-delayed CSeries planes have been ordered. In contrast, Boeing had already delivered more than 8,700 of the 737 in its various incarnations, and had orders for a further 4,200 [5].

It emerged that Bombardier had tried unsuccessfully to sell a stake in the CSeries project to Airbus. In October 2015 Bombardier announced that the provincial government of Quebec, where the firm is based, would pay $1 billion for a stake of 49.5% in the plane, whose development has so far cost $5.4 billion [5].

Incumbents are just as hard to dislodge in the market for smaller "regional" jets (ones with up to around 100 seats), which is dominated by Bombardier and Embraer of Brazil, but which COMAC, UAC's Sukhoi subsidiary and Mitsubishi of Japan were all trying to break into. COMAC's regional jet, the ARJ21, had its first test flight in 2008, but because of concerns about cracks in its wings and dodgy wiring it had still not been certified for commercial flights in the US. Mitsubishi's MRJ and Sukhoi's Superjet were also delayed by technical problems. In 2015, the Superjet was in service with a handful of airlines, though orders had been sparse; and the MRJ would make its maiden flight shortly [5].

To be fair, the incumbents also find that it is not easy to get an entirely new aircraft design off the ground. The research-and-development costs for Boeing's aircraft project, the 787 Dreamliner, grew to $28 billion as a result of problems with its supply chain and electronics. And revenues from one of Airbus's newest aircraft, the giant A380, hardly cover its production costs, never mind the capital sunk into its development. If even the industry's two dominant firms find it a long, expensive struggle to get a new aircraft design in the sky, no wonder their would-be rivals are having such a hard time [5].

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