

## **Flying High and Flying Blind:**

### **How One Chinese Buyout of a US Aviation Firm Soared While Another Crashed**

January 2017



## Preface

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For decades, bilateral investment has flowed predominantly from the United States to China. But Chinese investments in the United States have expanded considerably in recent years, and this proliferation of direct investments has, in turn, sparked new debates about the future of US-China economic relations.

Unlike bond holdings, which can be bought or sold through a quick paper transaction, direct investments involve people, plants, and other assets. They are a vote of confidence in another country's economic system since they take time both to establish and unwind.

The Paulson Papers on Investment aim to look at the underlying economics—and politics—of these cross-border investments between the United States and China.

Many observers debate the economic, political, and national security implications of such investments. But the debates are, too often, generic or take place at 100,000 feet. Investment opportunities are much discussed by Americans and Chinese in the abstract but these discussions are not always anchored in the underlying economics or a realistic investment case.

The goal of the Paulson Papers on Investment is to dive deep into various sectors, such as agribusiness or

manufacturing—to identify tangible opportunities, examine constraints and obstacles, and ultimately fashion sensible investment models.

Some of the publications in this Investment series look ahead. For example, our agribusiness papers examine trends in the global food system and specific US and Chinese comparative advantages. They propose prospective investment models.

Even as we look ahead, we also aim to look backward, drawing lessons from past successes and failures. And that is the purpose of the case studies, as distinct from the other papers in this series. Some Chinese investments in the United States have succeeded. They created or saved jobs, or have proved beneficial in other ways. Other Chinese investments have failed: revenue sank, companies shed jobs, and, in some cases, businesses closed. In this sense, past investments offer a rich set of lessons to learn.

Damien Ma, Fellow and Associate Director of the Paulson Institute think tank, directs the case study project.

For this case study of Cirrus and Hawker, we thank University of Chicago student Francesca Bottorff for her research support. In addition, we are grateful for our Research Fellow Houze Song's dedication to this project.

Case studies are reconstructed on the basis of the public record, personal interviews with participants, and journalistic accounts. They aim to reflect a best reconstruction of the

case. But they may have gaps and other inadequacies where the record is incomplete, facts are murky, or players chose not to share their views.

Cover Photo: Reuters/China Stringer Network

## Timeline

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### Deal 1: Cirrus Aircraft and AVIC

<b>1984</b>	Brothers Alan and Dale Klapmeier found Cirrus Design Corporation (known as Cirrus Aircraft) in Baraboo, Wisconsin.
<b>1988</b>	The company's first model aircraft, the VK-30, makes its maiden flight.
<b>1994</b>	Cirrus relocates to Duluth, Minnesota.
<b>1998</b>	The Federal Aviation Administration certifies Cirrus' SR-20 aircraft, the company's first commercial success.
<b>2001</b>	Cirrus sells 58 percent of the company to private equity firm Crescent Capital, the US arm of the First Islamic Investment Bank of Bahrain (now called Arcapita).
<b>2007</b>	Cirrus' single-engine light personal jet, the Vision SF50, officially debuts.
<b>2008</b>	
<i>September</i>	The global slump in sales of piston-engine aircraft results in Cirrus cutting 8 percent of its workforce—the first in a series of layoffs that takes place over several months.
<i>October</i>	Cirrus cuts production from 14 to fewer than five aircrafts per week and also shortens its work week.
<b>2011</b>	
<i>February</i>	China Aviation Industry General Aircraft (CAIGA), a wholly owned subsidiary of state giant Aviation Industry Corporation of China (AVIC), buys Cirrus for \$210 million.
<i>June</i>	The federal Committee on Foreign Investment in the United States clears the transaction and the sale of Cirrus to AVIC is completed with little trouble.
<b>2012</b>	CEO Dale Klapmeier indicates that Cirrus' financial position has improved and that progress is underway to certify the Vision SF-50 personal jet.

**2013**

*July* Cirrus COO Pat Waddick indicates that continuing investment from CAIGA will allow Cirrus to develop additional new aircraft models.

*December* Cirrus delivers 276 new aircraft to customers, a 10 percent increase over sales in 2012, marking the company's best single-year performance since 2008.

**2014** Cirrus successfully tests the first production model of its Vision SF50 jet.

**2015** Cirrus announces plans to establish a customer delivery center in Knoxville, Tennessee.

**Deal 2: Hawker Beechcraft and Superior Aviation Beijing**

**1920** H.G. Hawker Engineering, the predecessor of Hawker, is established in Great Britain.

**1932** Walter and Olive Ann Beech found Beech Aircraft Corporation in Wichita, Kansas.

**1980** Beech Aircraft becomes a subsidiary of Raytheon.

**1994** Hawker and Raytheon Corporate Jets merge their firms to form Raytheon Aircraft.

**2006** Raytheon sells its civilian aviation unit to a consortium of Goldman Sachs and Onex Corporation—the new firm is renamed Hawker Beechcraft.

**2010** Superior Aviation Beijing is formed in China through the purchase of Superior Air Parts, a US aircraft parts manufacturer, with Superior's owner Cheng Shenzong holding the majority stake.

**2012**

*May* Hawker Beechcraft files for Chapter 11 bankruptcy in US court.

*July* Superior Aviation enters into an exclusive negotiation with Hawker to acquire all of Hawker's assets.

- October*      Negotiation over Superior Aviation's acquisition of Hawker Beechcraft breaks down and the Chinese attempt to buy the US firm fails.
- 2013**      Hawker Beechcraft ceases production and exits bankruptcy on its own under a new name, Hawker Beechcraft Corporation.
- 2014**      Rhode Island-based Textron Aviation ultimately buys Hawker Beechcraft.

## Players

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### United States

#### *Hawker Beechcraft*

Kansas-based US aviation manufacturer that files for bankruptcy in 2012 but eventually exits bankruptcy independently in 2013 under the new name Beechcraft Corporation

#### *Cirrus Aircraft*

Based in Duluth, Minnesota, a US general aviation aircraft manufacturer bought by state-owned China Aviation Industry General Aircraft

### China

#### *Superior Aviation Beijing*

Chinese aircraft manufacturer, jointly owned by Chairman Cheng Shenzong and the Beijing municipal government through its investment and economic development arm Beijing E-Town

#### *Beijing E-Town*

Economic development agency of the Beijing municipal government, providing capital for high-tech manufacturing projects and industrial parks

#### *Aviation Industry Corporation of China (AVIC)*

Chinese state-owned aerospace and defense industry conglomerate with diversified assets across sectors

#### *China Aviation Industry General Aircraft (CAIGA)*

Chinese aircraft manufacturer and AVIC subsidiary

## Introduction

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It is exceptionally difficult for any country to create and sustain a commercially viable and competitive civil aviation industry, and few countries ever manage to do so. But when it does happen, it generally reflects several important traits of that particular economy: its industry is at the frontiers of high-tech manufacturing; it has established a complex ecosystem of supply chains and maintenance capabilities; it has joined the club of highly innovative countries; and it controls

strategic technologies that have both commercial and military applications.

Just take Japan and Germany, for example. While both are clearly advanced economies with sophisticated manufacturing capabilities, neither has built—or else has chosen not to pursue the establishment of—a successful commercial aircraft industry. Both countries do serve, however, as important suppliers for the American and European commercial aircraft duopoly of Boeing and Airbus.

The United States, for the moment, stands largely alone as the most

successful country ever to build a dynamic and diversified aviation industry. The American aviation industry includes numerous market segments, ranging from commercial aircraft and advanced fighters and bombers to personal and business jets. Yet while the United States will likely

remain peerless in this area for the foreseeable future, China appears to be the sole country with the ambition to replicate the US success in all aspects of aviation.

Indeed, the Chinese government

has thrown considerable money behind its ambition, marshaling state resources and subsidizing state-owned enterprises (SOEs) to support the creation of an aviation industry that can comprehensively rival that of the United States.

But ambition does not always translate into execution. Devising industrial policies for aviation is one thing. It is quite another, however, to actually realize the objective of managing a successful industry. China has rolled out its first commercial aircraft, the C919, which is expected to compete with the Airbus 320 and Boeing 737.



Photo: Flickr/Dennis Deery



But simply having a Chinese-made aircraft is not sufficient to be globally competitive. Instead, demonstrating the ability to manage an industry of such scope and scale will be necessary to validate the Chinese economy's technological prowess and potential.

The Chinese government wants a domestic aviation industry in large part to help meet anticipated demand. It is no surprise, therefore, that all levels of the Chinese government, from the central government in Beijing to the provinces and cities, have made the establishment of an aviation industry a strategic priority. China's aviation market is expected to see healthy growth, both for the commercial aviation segment and for what is called "general aviation."

Within the general aviation market, which includes light aircraft, two attempted Chinese acquisitions in the United States are the focus of this case study. The two cases share some similarities: both involved strong Chinese government support and were pursued with the intent of aligning with, however vaguely, China's broader industrial policy objectives. But the cases differed dramatically in their outcomes.

The first case, a Chinese takeover of Cirrus Aircraft, proceeded smoothly and the firm has since become more profitable. The second case, the attempted takeover of Hawker Beechcraft, failed spectacularly and

that firm was eventually acquired by another American entity.

These two cases, and their distinctive outcomes, are not simply a tale of different Chinese buyers, however. Timing was also an important factor that determined the outcomes of these twin transactions. The 2008 financial crisis that swept across the global economy had a devastating impact on the global aviation industry, including the US market, which accounts for more than half of global general aviation manufacturing.

As a result, certain aviation firms that weathered the financial crisis and emerged intact decided that this would be an ideal time to buy assets on the cheap. For example, in 2010 an Israeli aerospace and defense company, Elbit Systems, purchased M7 Aerospace, the successor to Fairchild Dornier Aviation, for \$85 million in 2010.<sup>1</sup> M7 and Fairchild are best known for their military aircraft, such as the A-10 Thunderbolt. In contrast, numerous distressed aviation firms, such as US light business jet maker Eclipse Aviation and Emivest, failed to find buyers and ended up declaring bankruptcy.

This tendency to seek commercial opportunity out of a crisis was also the economic rationale that underpinned the attempted Chinese acquisitions of Cirrus and Hawker. Both US aviation firms were hit hard by the 2008 crisis. From the perspective of the Chinese

investors, therefore, not only could they opportunistically target cheaper assets that possessed advanced technology, each acquisition could also be justified on the grounds of supporting the Chinese government's national aviation industry strategy.

Moreover, it certainly helped that the two US target firms were established players in their respective market segments and were well-known brands. This made it easier to entice Chinese state support for the attempted buyout because the investors could make a political argument that “China” writ large would be “acquiring a valuable brand.”

The first case in this study deals with the acquisition of Minnesota-based

Cirrus Aircraft by AVIC, a major Chinese state-owned conglomerate. By the time Cirrus began looking for a buyer, it had been losing money for three consecutive years, so the prospect of a quick financial turnaround without finding a buyer appeared grim to the company's management.

What was more, the company was not the most disciplined at containing its costs. Even as sales declined—with the CEO himself acknowledging that there was little chance to see Cirrus' sales return to pre-crisis levels within five years—the firm continued to

invest in its ambitious concept of a next-generation aircraft of uncertain commercial viability.

Cirrus also faced less rosy market dynamics. The trajectory of the US general aviation market did not bode well for the firm's prospects. Qualified US pilots and total flight hours had been in decline for some time and were projected to drop further. Taken together, personal and business jets without crew account for about 75 percent of general aviation usage in the United States, so the shrinking number of pilots translates into fewer total hours flown and average hours

flown per aircraft. These trends can be seen clearly in industry data.<sup>2</sup> A lower utilization rate of the existing fleet has meant less demand

for new aircraft, which signals poor business prospects in the coming years or even decades.<sup>3</sup>

Taking these factors into consideration, Cirrus did not, at face value, look like an especially attractive acquisition target—that is, not if an investor was focused on profits and valuable assets in the aftermath of the global economic downturn. But AVIC was *not* that kind of investor; as an SOE, it did not need to put profit maximization at the top of its decision-making process. With ample backing of China's state-led financial system, and a fairly sophisticated

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understanding of global mergers and acquisitions (M&A), AVIC could afford to make its investment decisions based on longer term strategic considerations rather than on the basis of returns alone.

AVIC apparently had faith in the long-term viability of Cirrus' jet project—and, for that matter, in the Chinese market potential for such planes. It proved eager to close the deal and provided more than \$100 million to Cirrus to complete its jet project. That capital enabled the successful launch of Cirrus' next-generation aircraft, the Vision SF-50.

The second case involves the attempted takeover of Hawker Beechcraft, a spin-off of Raytheon. The acquisition target in this case was quite different and the deal also had clear national security implications for the United States.

Like Cirrus, Hawker was on the verge of bankruptcy and could no longer service its debt. Thus in the context of that time, the emergence of a deep-pocketed Chinese buyer in Beijing E-Town—an investment arm directly under the Beijing municipal government—may have seemed like the arrival of a “savior” to some at Hawker.

This was a deal that could potentially benefit both parties: the Beijing government would acquire Hawker's world-class brand and technology,

while Hawker would receive the capital it desperately needed to stay afloat.

But things quickly grew much more complicated. For one, the Beijing bureaucrats at E-Town, who initiated this acquisition, were largely ignorant about the aviation industry and its market dynamics. As a result, E-Town sought and developed a murky relationship with Superior Aviation, a Chinese private aviation firm whose founder's sales skills and natural talent for persuasion ably hooked the municipal government entity into a partnership.

And yet it soon became clear that E-Town did not know what it was getting into, as Superior turned out not to be quite what it seemed. When it came to actually negotiating a deal with Hawker, E-Town was far from prepared. For example, when Hawker representatives sat down to weigh the ultimate Chinese offer, they deemed it to be “...[suited to] a completely different transaction,”<sup>4</sup> precipitating the collapse of negotiations. As a result, Hawker ended up going through bankruptcy and discontinued its jet business, but eventually found another American buyer.

Unlike other cases in this series of investment papers, each of which is devoted to a single deal, this study compares and contrasts twin deals in a similar sector. One goal of this approach is to offer insights to both sides of prospective US/China

transactions about what *works*, and what does *not* when parties attempt to complete an actual transaction.

Moreover, this pair of cases is especially striking because it involves aviation, a relatively sensitive and technology-intensive industry. The divergent outcomes, curiously enough, tell us less about the Chinese acquirers *per se* than about how each of these players approached the transaction and behaved during its negotiations. Perhaps surprisingly, after all, the successful transaction involved a large SOE that also serves the Chinese military, while the failure involved a private Chinese firm.

In short, the intervention of the Chinese state played a role in both of the cases' outcomes. But although the attempted Hawker acquisition was much larger and more complicated than the Cirrus deal, it was neither the complexity nor the associated national security concerns that ultimately derailed it.

Rather, the failure in the Hawker case can be explained by a combination of factors. These included a lack of understanding of the industry by the Chinese acquirer, amateurish negotiations, and a shoddy partnership between a Chinese state entity and a private player. Conversely, because the Cirrus deal was not AVIC's first foray into global M&A, the more seasoned central SOE, despite its People's Liberation Army

(PLA) connections, turned out to be more adept at navigating obstacles on its way to acquiring a technology-intensive US firm.

These twin cases illustrate several lessons:

- The Chinese government's application of state-directed "catch up" industrial policies, especially in high-tech industries such as aviation, can sometimes be wasteful, misdirected, and untimely. This is, in part, because Beijing's "big push" industrial policy approach leads many inexperienced domestic players to crowd the sector, often resulting in unregulated competition and irrational exuberance.
- Deep pockets alone are insufficient to determine the success or failure of a Chinese acquisition in the United States. It turns out that even though the Superior and E-Town partnership over-bid on price, it still did not seal the deal. An equally important factor is whether a Chinese firm gets its basic due diligence process right. For instance, Chinese firms can fail in overseas M&A deals if they do not actually understand the scope of the M&A process and the business being acquired, obtain deep knowledge about the party on the other side of the negotiating table, and stick to timely internal communications.

- Hiring experienced Western consultants does not necessarily help Chinese firms better navigate the negotiation process. The determining factor often may come down to whether the Chinese side is willing (or unwilling, as one of these twin cases will demonstrate) to alter its prior convictions and behaviors.
- So long as the outlook for China's general aviation market remains positive relative to the US market, this secular trend will drive Chinese firms to continue seeking opportunities in the United States.

The conceptual basis for this is the “China market play” premise—that is, the Chinese investor hopes to obtain aviation technology and research and development (R&D) resources, while giving US aviation firms the chance to seek growth in the China market.

- Because of their sensitivity to economic cycles, aviation firms need to be conservative in their investment plans and financing strategies. Imprudent management of both can quickly turn a firm into an attractive asset and acquisition target for an investor, Chinese or otherwise.

## China and the Global General Aviation Market

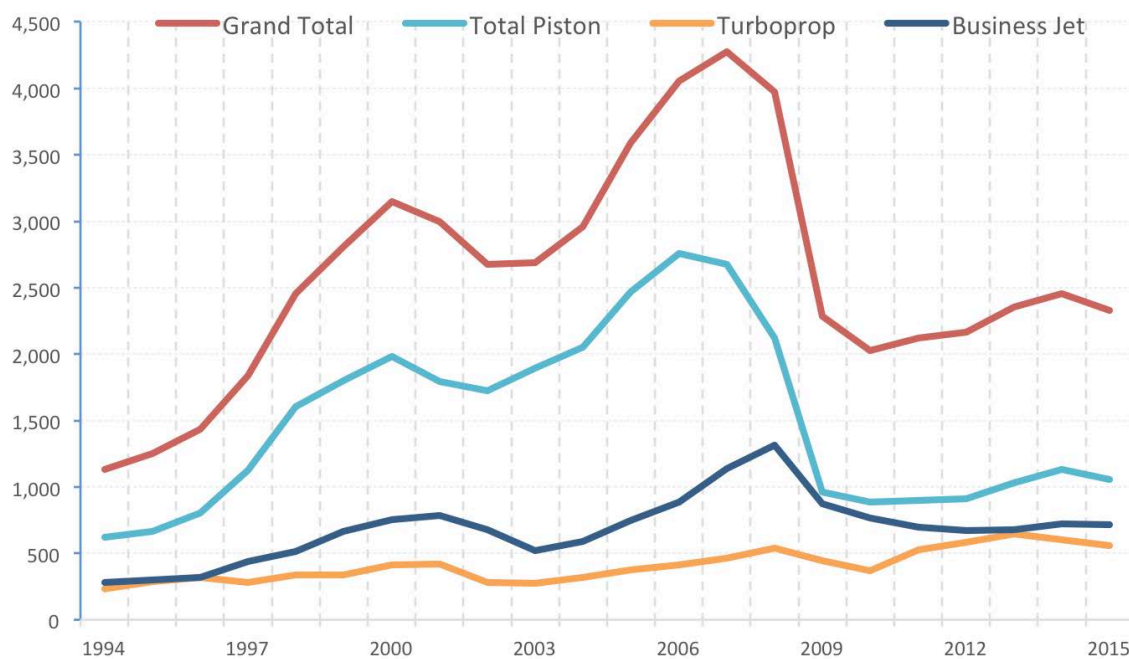
The two attempted acquisitions in this case need to be viewed within the context of the dynamics in the global aviation market and developments in the Chinese general aviation industry.

General aviation is a broadly defined sector. It encompasses all aviation segments besides military and commercial aircraft. General aviation aircraft can be divided into two sub-categories based on engine type, namely piston- and turbine-based engines. Piston powered aircraft, for example, are usually smaller and fly at lower speeds; they include most personal

aircraft and light helicopters. Turbine engine aircraft, by contrast, include business jets and turboprop planes; they tend to be larger in size.<sup>5</sup>

The United States has long dominated the global general aviation industry. Its firms are both the largest producers and its buyers the most significant consumers of aircraft in this market segment. Indeed, the United States is home to about two-thirds of the world's general aviation aircraft. The European market ranks second in terms of both general aircraft production and

**Figure 1. Total Global General Aviation Aircraft Shipments**



Source: General Aviation Manufacturers Association.

ownership. Taken together, the United States and Europe account for more than 90 percent of the general aviation market and production globally.

Because this industry has been so concentrated in the United States and Europe, the global financial crisis, which hit these two Western markets harder than China, amplified the negative impact on the general aviation industry overall. Total units shipped for general aviation aircraft nearly halved between 2008 and 2010. In fact, even seven years after the financial crisis, total aircraft sales had not fully climbed out of this slump, with only turboprop plane sales seeing a slight recovery (see Figure 1).<sup>6</sup> In 2009, the value of US quarterly non-defense aircraft orders dropped from \$20 billion to essentially zero (see Figure 2). As a result, many US aviation firms experienced protracted financial distress, and some were even forced into bankruptcy.

China, by contrast, not only weathered the immediate impact of the financial crisis better than the Western economies, its general aviation market was also moving in the opposite direction of the slump seen in the United States and Europe. Two factors stand out when considering the prospect of the Chinese general aviation industry.

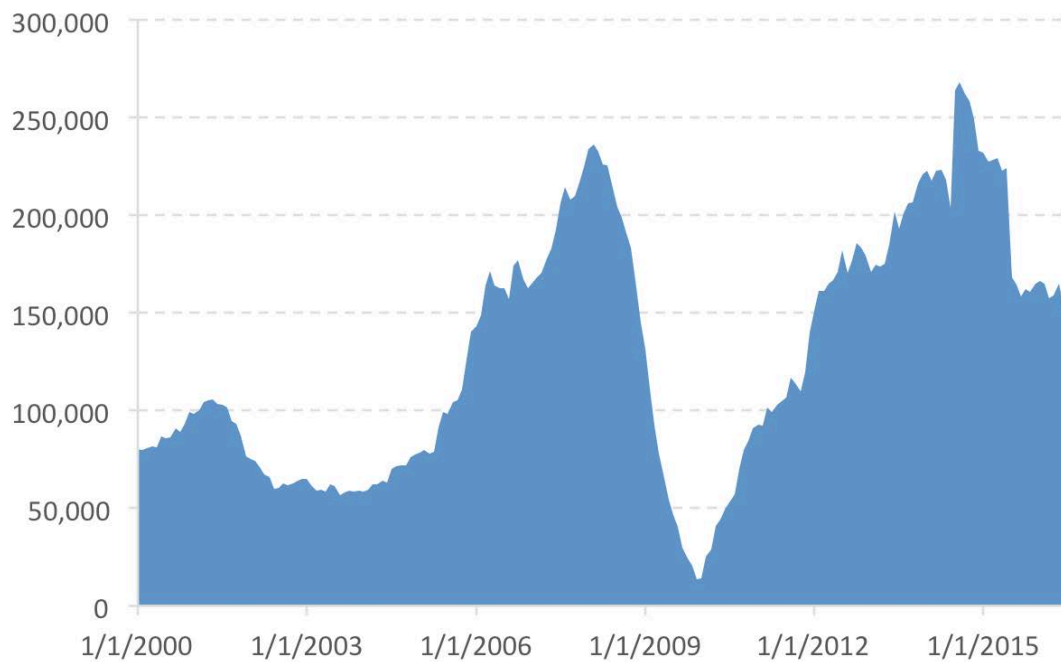
First, China today boasts strong market potential relative to other major economies, despite the country's current economic slowdown and

significant regulatory barriers (see Figure 3). It is true, for instance, that China's general aviation market seems to have cooled along with the economy: in 2015, for the first time in a decade, China's business jet and helicopter fleet saw only single-digit growth.<sup>7</sup> But even though China's business jet fleet growth is projected to slow from more than 20 percent to 10 percent over the next decade,<sup>8</sup> that pace will nonetheless yield a total fleet of about 1,100 business jets by 2025, according to the latest Bombardier forecast. That is more than double China's current fleet size.

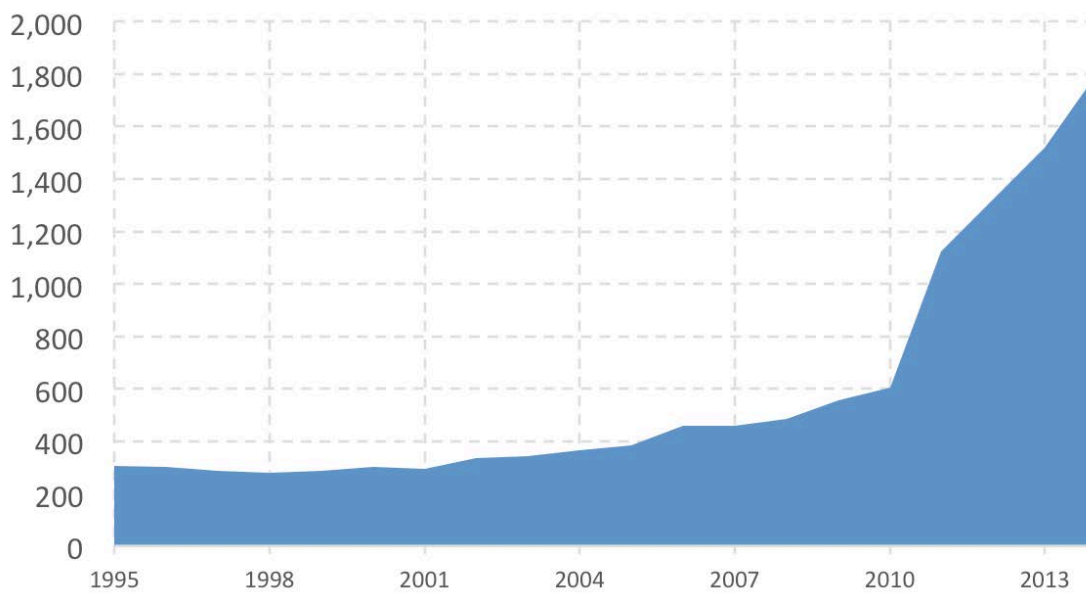
Second, even if China's economic growth remains anemic, merely loosening current bottlenecks in its general aviation sector would likely stimulate substantial growth. One of those bottlenecks is the country's infrastructure deficit. While many economists rightly worry about China's over investment in infrastructure to fuel growth, the country does have important infrastructure gaps in reality.

For example, although the number of Chinese airports has more than doubled since 1990, it is still insufficient to accommodate expected passenger traffic and the growth of the fleet. To put China's airport deficit in perspective, the United States, with a population of roughly 315 million people, currently has more than 5,000 airports. China, on the other hand, has fewer than 300 airports to serve its 1.4 billion population.<sup>9</sup>



**Figure 2. US Manufacturers' New Orders for Non-Defense Aircraft and Parts (\$ million)**

Source: US Census Bureau.

**Figure 3. Growth of China's General Aviation Aircraft Fleet**

Source: China National Bureau of Statistics.



Another bottleneck that has hampered the potential growth of the general aviation sector is excessive regulation of civilian air space. Denzil White, the CEO of Deer Jet subsidiary Hongkong Jet, contends that there is a tangible difference between US and Chinese airspace regulations that can affect business. “In America, I can decide at 2 o’clock in the afternoon that I want to leave at 5 o’clock from Los Angeles and fly to New York, and it’s quite possible to do it. Here [in China], if you get all your ducks in a row it’s [still] a minimum of two days.”<sup>10</sup>

Government policy is relevant to this sector in another way as well: the Chinese government has been willing

to dole out generous subsidies to the general aviation sector to boost indigenous R&D and manufacturing capacity. Chinese state capital is meant to play a role in narrowing the gap with advanced economies, since China lags far behind the United States and Europe in this respect.

Considerable state support for the industry is no trivial matter. After all, the Chinese government has made the development of the general aviation industry a national priority. One result is that it has been willing to provide incentives and financing to both state-owned and private Chinese players. These subsidies and other incentives

aim to help develop homegrown manufacturing capabilities or, if that fails, to acquire the relevant assets and technologies overseas.

Typically, acquiring existing technologies in this way accelerates the catch-up process for a developing economy to reach the current frontier. This is a strategy that China has successfully employed with its high-speed rail program, for example. Like the United States, China is not content being a mere consumer of aircraft; it also wants to become one of the biggest global producers.

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The State Council, effectively China’s cabinet, has explicitly recognized the problems that plague

the country’s general aviation industry. The central government has summarized the challenges facing the sector thusly: “The scale of the general aviation industry [in China] is small, infrastructure remains comparatively backward, reform of the administration of low-altitude airspace has progressed slowly, the capability for independent R&D and manufacturing is inadequate, and a large gap exists between consumer demand and the services offered.”<sup>11</sup>

In short, financing infrastructure construction, including airports, is relatively easy for China—in fact, the state is in the midst of an airport

building boom. But developing world-class aircraft R&D and manufacturing capacity at the technological frontier is a much tougher feat. It may take decades to build a manufacturing ecosystem that can sustain a national general aviation industry in China. And that process is almost certain to be accompanied by wasted investment because of heavy state intervention.

Once Beijing made it abundantly clear that the general aviation industry was a strategic national priority, that signal led various levels of government and a number of firms, both state and private, to compete vigorously in the race to set

up local aviation industries or attract manufacturers to set up shop.

But it quickly became evident to many Chinese firms that it would be easier to simply buy foreign technology than to painstakingly develop it on their own. The choice to look abroad for valuable assets was made even easier by the fact that many of these firms had ample cash on their balance sheets at a time when US aviation firms were struggling to stay afloat in the wake of the 2008 financial crisis. This context, then, helps explain the rationale behind the two acquisitions examined in this case.

## Barn to Market: How Cirrus Took Flight

The history of American innovation is replete with fables of amateur tinkerers, autodidactic inventors, and eccentric visionaries who made technological breakthroughs within the confines of a single garage. But when it comes to breakthroughs in aviation, it would seem that siblings make an especially good team. Like the Wright brothers who developed the glider that flew at Kitty Hawk, two Midwestern brothers with another big dream created the Cirrus aircraft inside a barn in rural Wisconsin. The year was 1984.

Natives of Dekalb, Illinois, the brothers Alan and Dale Klapmeier moved with their family to a small farm in Baraboo, Wisconsin

in the 1970s. Their love for aviation was apparent at a young age—they were obsessed with model airplanes and pestered their father to let them build real ones. As teenagers, Alan joined the Civil Air Patrol to get cheaper flying lessons while Dale learned to fly a plane even before he learned how to drive a car. In college, each Klapmeier brother chose a major that complemented his passion for aviation: physics for Alan, business administration for Dale, and economics for both.<sup>12</sup>

Dale later recalled, “The idea was to find something to do with airplanes. But, if nothing else, I knew I could be a banker;

that was my fallback career. I studied economics and majored in business with a finance emphasis.”<sup>13</sup> Alan also recounted, “I’m sure that separately, we also wondered, ‘are we going to get jobs being bankers or do some other kind of business?’ But, from 1979 on, we started thinking about what kind of aviation manufacturing company we would have, from a realistic point of view.”<sup>14</sup>

That youthful passion endured. What began as an amateur hobby intensified into a disciplined pursuit of their own

*Like the Wright brothers who developed the glider that flew at Kitty Hawk, two Midwestern brothers with another big dream created the Cirrus aircraft inside a barn in rural Wisconsin.*

aircraft design. Toward the end of college, the two brothers began seriously sketching out a concept for their first homemade aircraft prototype. By the time

they graduated in 1984, the brothers had already built their first prototype, the VK-30, inside the family barn (see Box 1).<sup>15</sup> This aircraft was built in collaboration with Alan’s college roommate, Jeffrey Viken, who had trained in aeronautical engineering and would later go on to become a NASA engineer.

While the Klapmeiers had sufficient background knowledge and were resourceful and capable tinkerers, they needed someone like Viken, who was formally trained in building planes, to bring their product to launch. As part of the VK-30 product development process, the

**Box 1: What is the VK-30?**

The VK-30 had several unique qualities that distinguished it from other homebuilt aircraft. For one, it had a composite pusher-propeller mounted behind the engine, with conventional wings and tail. It would eventually become the first kit aircraft (a common name for aircraft made by amateurs) featured on the cover of *Aviation Week & Space Technology*—a leading industry publication.

“The VK-30 was a four to five-seat aircraft,” Alan said. “Three people could sit across the backseat. We decided to do a pusher, because we were spending a lot of time thinking about high performance and natural laminar flow (a concept in fluid dynamics that describes the smooth, uninterrupted flow of air over the contour of the wings, fuselage, or other parts of an aircraft in flight). We believed that we could get increased natural laminar flow on the fuselage and higher performance if we didn’t have the propeller out front.”<sup>17</sup> Dale added that another reason for the pusher design was that moving “...noisy prop and exhaust away from the cabin would make it quieter inside. Also, everything in the cabin brings the center of gravity forward.”<sup>18</sup>

Not only was the aircraft’s all carbon-fiber composite construction supposed to achieve natural laminar flow over the entire body of the plane, it was also designed to generate very low drag. To achieve this, the inventors turned to Viken’s wife Sally, who was also an aeronautical engineer, to come up with the single-slotted Fowler flap system, which extended the surface area of the wing and increased energy to airflow as well as the “lift” of the plane. This design apparently decreased drag, rendering the aircraft ideal for takeoff.<sup>19</sup> Meanwhile, Vikens designed the wing and propeller.

The team of four collaborated on every aspect of design and labor. In true “do-it-yourself” fashion, the Klapmeiers scavenged for reusable parts from junkyards throughout Wisconsin and bought what they needed to keep costs down. For instance, they took a control system out of a damaged Piper aircraft, converted a Cherokee nose gear into a retractable gear, and used a Lycoming O-540 engine they salvaged from a scrapped Heron propeller. The team would design part of a plane, assemble it using the parts the Klapmeiers had gathered, and then return to designing.

The most important legacy of the VK-30 kit plane was that it sowed the seeds for the design of Cirrus’ future and commercially viable models, the SR-20 and SR-22. As a single-engine aircraft, the VK-30 was built from a relatively obscure design and was truly “homemade” in every sense of that word. Disappointed by initial efforts to market the VK-30, the Klapmeiers decided that the best way to move forward would be to stick to a more conventional layout design and a certified production aircraft, rather than assembling a kit plane from scratch.



Photo: Flickr/San Diego Air and Space Museum (Image: The VK-30)

brothers and Viken spent countless hours at local airports in the Wisconsin towns of Waupun and Princeton, observing and brainstorming about their plane. Beyond sharing the Klapmeiers' passion for planes, Viken brought to the table crucial knowledge that helped the VK-30 achieve maximum aerodynamic efficiency.

The completion of the VK-30 marked the Klapmeiers' first step toward founding their own aircraft company. They launched the firm immediately after college under the name Cirrus Design Corporation, housing it inside their Baraboo barn. The company name was inspired by the memorable cirrus clouds they had seen on a summer drive years before, which had evoked for them the magic of flying.<sup>16</sup>

One year before the VK-30's maiden flight in 1987, the Klapmeiers debuted the aircraft at the EAA AirVenture Oshkosh Show, an annual gathering of aviation enthusiasts and hobbyists.<sup>20</sup> The brothers arrived in Oshkosh with what they believed to be the sleekest and highest-performing—albeit untested—kit plane to date. In their eyes, not only was the VK-30 an immense labor of love, it also represented what they believed to be the future of personal aircraft.

Indeed, the brothers were so convinced of the quality of their product that they didn't even bother to formally advertise the VK-30 prior to its debut. And they were only half-joking when they predicted they would have trouble keeping the crowd back from swarming their booth and processing all the orders.<sup>21</sup>

But their hubris met stark reality at the Oshkosh show. By the end of the week, the Klapmeiers had received zero orders for the VK-30 and only a few pilots had expressed serious interest in making a purchase. People simply weren't interested in an aircraft that had not yet taken flight. New to the industry, the Klapmeiers' unknown aircraft was simply not going to cut it with the EAA membership. The brothers ended up lugging their VK-30 back to their small shop in Baraboo, disappointed yet undeterred.<sup>22</sup>

In fact, the Klapmeiers were so enamored with their creation that they had lost focus and failed to get the product ready for market. The outcome of the Oshkosh airshow catapulted them back to reality. And so they continued to tinker: after some modifications to the wing and multiple stress tests, the VK-30 was ready for its maiden flight.

Although both Dale and Alan wanted to personally pilot the initial flight, their mother adamantly opposed that plan. And so Viken invited Jim Patton, a NASA pilot, to consider manning the aircraft. After arriving in Baraboo to examine the plane, Patton was impressed but reluctant to jump aboard a project that he had not been involved with from the get-go. But three days later, after studying the VK-30 and witnessing the team readily incorporate changes he recommended, Patton relented and offered to pilot the plane. Based on his pilot feedback, the team continued to make small tweaks after the test flight.

These improvements and changes made a big difference. By the next annual Oshkosh show in 1988, the more seasoned—and chastened—Klapmeiers sold the first few VK-30 kits.<sup>23</sup> These became the production prototype upon which all subsequent kits were based and received some attention from industry media.

### ***A Strategic Pivot***

In the early 1990s, however, sales of the VK-30 flagged just as it was undergoing the Federal Aviation Administration (FAA) certification process. By the time the Klapmeiers discontinued production of the plane in the mid-1990s, only roughly a dozen had been built.<sup>24</sup> Selling a niche homemade kit plane would not make a scrappy startup commercially viable. So the brothers realized they needed to pursue a new strategic direction and began exploring building more conventional, FAA-certified planes.

At this point, the brothers got down to work on separate designs. Alan began making sketches for what would become the ST-50 four-seat turboprop aircraft, the design of which was commissioned by Israeli aviation manufacturer IsraAviation. Dale, meanwhile, tinkered with the concept of a model that would later evolve into one of Cirrus' most popular products, the SR-20.

But before fully delving into their new SR-20 project, the Klapmeiers made the decision in 1994 to move the company

headquarters from Baraboo to a 30,000-square-foot R&D facility in Duluth, Minnesota. The opening of this new facility was partially supported by the Minnesota state government in the form of loan and tax incentives.<sup>25</sup> Inside this new facility, the Klapmeiers commenced work on what would become Cirrus' flagship product.

The brothers had internalized an important lesson: marketing would be critical if they were ever to drum up interest and curiosity about a prospective new product. They still vividly recalled showing up at the EAA airshow in 1987 with an unknown product, no advertising, and no buzz. This time, by contrast, once product development of the SR-20 was underway, Cirrus released a new marketing campaign called "Hangar X." The company's advertisement displayed a secretive facility with nothing but a dim light and a slightly cracked door, leaving viewers guessing what might be brewing behind the door.<sup>26</sup>

In March 1995, Cirrus' first SR-20 prototype made its maiden flight. Like the VK-30, it could seat five passengers, but the similarities ended there. The VK-30 was a single-engine amateur kit plane, while the SR-20 was a piston-engine, composite monoplane. This made it a state-of-the-art, technically advanced aircraft, designed to be aerodynamically efficient.

The SR-20 boasted glass computer-monitored light displays (rather than round analog dials), all-composite



**Box 2: The CAPS System**

The Klapmeiers began to seriously consider aviation safety once their personal life circumstances changed. According to Alan, “Dale’s son was born in 1988, and my daughter was born in 1989, so we were both starting to think more about safety. This changed both our attitudes. Our earliest thoughts were, ‘It’s all about performance.’ Then, it was, ‘It’s all about ease of operation,’ and finally, ‘How do you make flying safer and easier at the same time?’”<sup>28</sup>

As a result, Cirrus developed a distinctive reputation for safety in the personal aircraft market, a function primarily of its inventive and effective CAPS system. Cirrus was the first manufacturer to receive FAA certification for producing an aircraft with a ballistic parachute system and remains the only company to implement the device as standard equipment on all of its models.<sup>29</sup>

Testing of CAPS began in 1997, and Dale has recalled the painstaking experimentation process: “To control the load, we needed the parachute to open quickly with the plane at a slow speed, and to open slowly with the plane at a high speed. It had to be able to open in a spin, straight and level, in a dive and with very little weight or very high weight, this huge range of requirements went into the design, and it became very difficult to meet all of those requirements.”<sup>30</sup>

After 38 failed experiments, the Klapmeiers finally figured out how to make the parachute work properly on a Cirrus plane. According to Cirrus, “In the event of an in-flight emergency, pulling the red CAPS handle on the ceiling inside the cockpit deploys a solid-fuel rocket out a hatch that covers the concealed compartment where the parachute is stored. As the rocket carries the parachute rearward from the back of the airplane, the embedded CAPS airplane harness straps release from the fuselage. Within seconds, the 65’ diameter canopy will unfurl, controlling the aircraft rate of descent. The final landing is absorbed by the specialized landing gear, a roll cage and Cirrus Energy Absorbing Technology (CEAT™) seats.”<sup>31</sup>



Photo: @Cirrus Aircraft (Image: Parachute system in action)

construction (rather than aluminum), flat-panel avionics and side-yoke flight controls, and included a truly innovative safety system, the Cirrus Airframe Parachute System (CAPS), that could enable the entire plane to descend safely in the event of an emergency (see Box 2). In a nutshell,

the SR-20 was a vastly superior aircraft. Its innovations both pushed the envelope for pilot comfort and made the plane a standard within the general aviation industry.

The SR-20 received its FAA certification in 1998, one of the first of its kind to do so in this category of aircraft for several years.

The first customer delivery was made in July 1999, and Cirrus received 320 orders for the plane in the first year alone.<sup>27</sup> To this day, the SR-20 is used for civil utility purposes, primarily by private individuals and companies, as well as by the United States Air Force Academy for flying instruction.

### ***The Good Years***

Cirrus began the decade of the 2000s on a high note. Riding momentum from the successful debut of the SR-20, the Klapmeiers began in 2001 to design a faster and more powerful successor, the SR-22. In August 2001, they sold a 58 percent controlling stake in the company for \$100 million to Bahrain-based holding firm Crescent Capital (now called Arcapita), making the Klapmeiers minority stakeholders in their own firm.<sup>32</sup> At that price, Crescent likely valued Cirrus at roughly \$170 million.

Selling more than half of the company was a game-changer for the strategic direction of both Cirrus and its founders. Taking equity from their homes and tapping the bank accounts of family and friends helped the Klapmeiers through their early years, but these were limited sources of funding, not nearly enough to continue growing a capital-intensive airplane manufacturing company.

Although Alan had already raised \$70 million from various investors prior to the Bahrain sale,<sup>33</sup> that sum still was

not enough to bring the brothers to the “promised land” of high-volume manufacturing. To reach that goal, they needed venture capital investment, an industry that wasn’t nearly as developed in the early 2000s as it is today. That was one reason that prompted the Klapmeiers to search for capital abroad.

Crescent Capital stood out to the Klapmeiers for its seemingly genuine interest in developing a long-term partnership. With the new investment, Cirrus paid off its debts and obtained the growth capital it needed to scale up manufacturing.<sup>34</sup> Funding proved necessary for the company to continue developing and building new aircraft from the ground up, a lengthy and costly process that required steady cash flow for years.

No longer encumbered with their financial burdens, the Klapmeiers could now devote their full energies to designing and developing the SR-22 model. The SR-22 ultimately became a souped-up version of the SR-20, an evolution of the design but with a larger wing, higher fuel capacity, and a more powerful engine. In addition, the SR-22 was outfitted with a more advanced electronics system that made the plane easier to operate.

In 2003, the SR-22 became the best-selling four-seat fixed-wing aircraft in the world, out-performing even Cessna.<sup>35</sup> Cirrus had over 600 employees by then, which swelled

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*Selling more than half of the company was a game-changer for the strategic direction of both Cirrus and its founders.*

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to more than 1,000 just two years later.<sup>36</sup> The firm was rapidly expanding and adding significant headcount. In 2006, Cirrus delivered 721 aircraft and celebrated the 3,000th Cirrus airplane rolling off the production line, just seven years after making the first delivery. The same year, not only did the company release 35 special edition SR-22 models, it also debuted the design of a light, single-engine, low-wing, seven-seat personal jet—the Vision SF50.<sup>37</sup> Drawing from the initial capital raised, Cirrus built a 250,000-square-foot manufacturing plant in Duluth that was able to deliver 15 airplanes to its customers per week.

The idea to develop a flagship personal jet product had been brewing in the general aviation industry since the early 2000s. But from the outset, the Klapmeiers were not certain about the market viability of such a product. The majority of small and medium-sized jets were used for business or charters, so it was unclear whether there would be enough demand for a personal jet targeted primarily for leisure.

Still, the brothers never quite gave up on the idea and eventually decided it would be a promising investment. They envisioned a product that would differentiate itself from alternatives in the market. “We’ve believed for a long time that the market would grow, and that personal jets would be available,” Alan said at the time. “We believe ‘personal’ jets will be very different than small ‘business’ jets. That’s down the road, but we do look forward to getting into that market.”<sup>38</sup>

The plane the brothers had in mind would focus more on the user experience, including ease of operation and comfort, rather than simply dazzle customers with advanced technologies and push the limits of speed. Basically, what Cirrus aimed to offer was a plane that would be quieter, a bit faster, and more comfortable than the company’s existing planes—a Toyota Camry rather than a Maserati.

According to Dale, their approach to building the aircraft also proved to be a bit different. He said at the time, “Instead of taking the corporate airplane and making it smaller, we’re going to build the airplane that our customers want. It’s just going to be powered with jet engines instead of a propeller.”<sup>39</sup> The Vision SF50 would be marketed as offering greater flexibility and “more lifestyle pursuits” for the owner than other aircraft but would also be an upgrade for pilots who had flown the SR line and other high-performance light aircraft.<sup>40</sup>

In short, the SF50 would essentially be positioned as the “iPhone 7” of the Cirrus product line, not a leap but a hop with a focus on the user experience. And like Apple, the Klapmeiers and their team had become seasoned in the art of product marketing. They wrapped the new product in mystery to gin up widespread interest and curiosity among potential buyers. As a teaser, in the days leading up to the debut, reservation holders received jigsaw puzzle pieces of the plane’s configuration in the mail. “We can confirm it has a windshield and wings,” Alan joked.<sup>41</sup>

## Turbulence and Descent

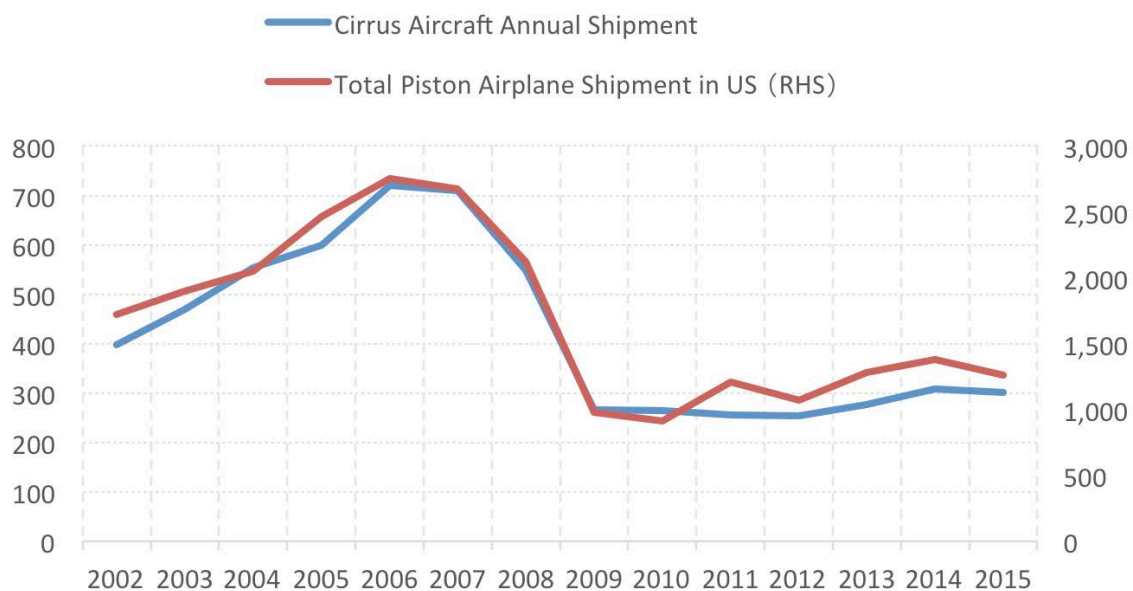
When it unveiled the Vision SF50 jet on June 28, 2007, Cirrus had reached a cruising altitude of sorts. Once just a Wisconsin barn startup, Cirrus was now recognized as a serious competitor in its class of personal aircraft. By December 2007, the company had secured a long-sought-after lease at an airport in Duluth for a new 189,000-square-foot building for manufacturing the new jet.<sup>42</sup> Under the terms of the 25-year lease with the city, the company agreed to create 200 full-time jobs over seven years.<sup>43</sup>

But the sense of euphoria quickly evaporated. Even before signing the

lease for the new manufacturing plant, reports emerged that Cirrus was considering going public in an effort to raise more capital or else seek a new major investor. Rumors swirled that Arcapita (formerly Crescent Capital), might want to divest its majority holding in Cirrus.

Company executives downplayed those suggestions. “Since day one, we knew that Arcapita would develop an exit strategy at some point,” spokesperson Kate Dougherty told industry media. “But Arcapita is not looking to pull out of this company any time soon.”<sup>44</sup> Still, the notion that

**Figure 4. Cirrus Aircraft Shipments**



Source: General Aviation Statistical Data Book, 2015.

Arcapita might be considering an exit six years into its investment hung in the air.

Market trends did not bode well for Cirrus' prospects at this point, either. By September 2007, Cirrus was feeling a significant pinch to its bottom line from the global slump in aircraft sales (see Figure 4). The single-engine aircraft market segment had been hit hard by the recession. Total shipments dropped 21 percent between 2007 and 2008, and Cirrus shipments were even below the industry average.

In response to a rapid deterioration of performance and outlook, Cirrus laid off 100 workers, or 8 percent of its workforce, and furloughed another 500. By the end of 2008, several hundred had been laid off and 20 percent of the furloughed employees had their period extended. "That's what all this cutting and streamlining is about—we've got to weather the storm," said a company spokesperson.<sup>45</sup>

By mid-2009, however, it appeared that Cirrus might have turned a corner. It took 50 employees out of furlough and ramped up production from fewer than five aircraft per week at the height of the recession to eight aircraft. But these moves proved to be premature. Although Cirrus' market share in the single-engine category

improved slightly in 2009, its sales plummeted by more than half. As a result, between August and November of 2009, the company laid off an additional 100 workers.

"These are challenging days for Cirrus, but the decision made is in the best interest of the entire company. Our outlook is still positive. We are making forward progress within the industry," said the firm's Vice President of Marketing Todd Simmons at the time.<sup>46</sup> And yet simply reducing headcount did not lead to the turnaround that Cirrus' management hoped for. By 2010, the company's production volume

dropped to 264 from 721 planes in 2007, while its workforce shrank by 60 percent from a peak of 1,500 over the same period.

The situation was apparently dire enough for Cirrus to take legal action in 2010 to prevent a former supplier, L-3 Communications, from spreading rumors that it was heading for bankruptcy.<sup>47</sup>

### ***Overcoming the "Founder's Dilemma"***

In fact, Cirrus did not face imminent bankruptcy. But management still realized that a major change was needed. Part of their challenge was to figure out how to resolve conflicts between the founders and management, thus overcoming the

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*Part of their challenge was to figure out how to resolve conflicts between the founders and management, thus overcoming the classic "founder's dilemma."*

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classic “founder’s dilemma” to focus on company performance rather than chasing the founders’ visions.

The focus turned to one of the brothers Alan. He loved airplanes and adorned his home with pictures and models of airplanes. He had been tirelessly designing and developing products despite difficult economic conditions and resistance from management. But it appears from the record that the majority of management at the time came to the belief that what Cirrus needed now were more managers, not inventors per se.

To resolve this conflict, management took the dramatic action of literally forcing one of the founders out of the company. Alan’s contract as chairman of the board was not renewed when it expired later that month, although he stayed at the firm for a few months before completely exiting later that year. In the meantime, Dale remained at Cirrus, where he became chairman of the board, as well as serving as executive vice president of product strategy.<sup>48</sup>

In a last-ditch effort to hold on to some portion of the company he had co-founded, Alan attempted to put together an investment group that would acquire Cirrus’ fledgling jet development program. But when management spurned those efforts, Alan decided that his time at Cirrus was up. When he was voted out, Alan

remarked that he had reached the “acceptance phase”<sup>49</sup> of the end of his relationship with the company he had helped to build. Some speculated that one of the reasons Alan was forced out was because as a “visionary” who wanted to jumpstart work on the personal jet project, he had clashed with the majority owner over what the company needed to do to stay afloat.<sup>50</sup>

Management proceeded to tap Brent Wouters, the company’s president and chief operating officer since February 2008,<sup>51</sup> as the new chief executive officer in August 2009. Recruited by Arcapita, Wouters had joined Cirrus in 2002 as executive vice president and chief financial officer. But unlike Alan, Wouters didn’t “love” planes<sup>52</sup> and referred to Cirrus aircraft as “our product” rather than as airplanes.<sup>53</sup> Wouters was a management consultant, albeit one who worked at an aviation company, and seemed determined to keep down the payroll and help the company endure tough times. He was also notably close to the owner, Arcapita, which had hoped for a quick payout from its \$100 million investment and by 2008, had started looking to sell.<sup>54</sup>

With Wouters now in charge, he believed the company needed to do whatever it took to lower its fixed operating costs so that it could get by on reduced sales, including laying off more people. He sent a clear message about the major changes afoot. “A

change began in December, and in many respects, we're an entirely different organization...We're much more focused on day-to-day performance and moving to the next level.”<sup>55</sup>

And yet several months into Wouters' tenure as CEO, it did not look as if a turnaround was in the offing. The changes he had been hired to implement were not taking shape as quickly as expected. Wouters realized,

with prodding from the majority owner whose overriding concern was return on its initial investment, that he had exhausted various options that would salvage the company in the wake of the financial crisis. There were mounting indications that Cirrus needed new capital infusion merely to survive, but Arcapita was no longer willing to provide it. As a result, Wouters quietly began scouting new potential buyers.

## China's AVIC Makes a Deal

In late 2010, Dale reportedly let it slip to a well-known aviation media outlet that China Aviation Industry General Aircraft (CAIGA), the general aviation arm of state-owned aerospace and defense giant Aviation Industry Corporation of China (AVIC), had visited Cirrus to explore a potential sale.<sup>56</sup>

It was apparent that the Vision SF50 jet development program was becoming expensive. By 2010, Cirrus said it had spent \$60 million on the project and expected that another \$140 million would be needed. That was no trivial amount of capital for a firm with revenue of just \$200 million that had been losing money for three years.<sup>57</sup>



Photo: Flickr/Tech. Sgt. Erik Gudmundson

Although the revelation of Chinese investor interest was a surprise to many, AVIC was in fact no stranger to Cirrus products. The Chinese government-backed conglomerate had expressed strong interest in the SF-50 jet project from its inception and had even flirted with the idea of becoming involved in R&D for the jet.<sup>58</sup>

But by 2010, AVIC's interests in Cirrus extended well beyond a single aircraft

project and were mostly commercial in nature. For one, the Cirrus brand was already well-known in China, because it had been selling SR-20 and SR-22 planes to Chinese customers since the early 2000s. The company had racked up a solid sales record, reflecting healthy Chinese market demand for its product.

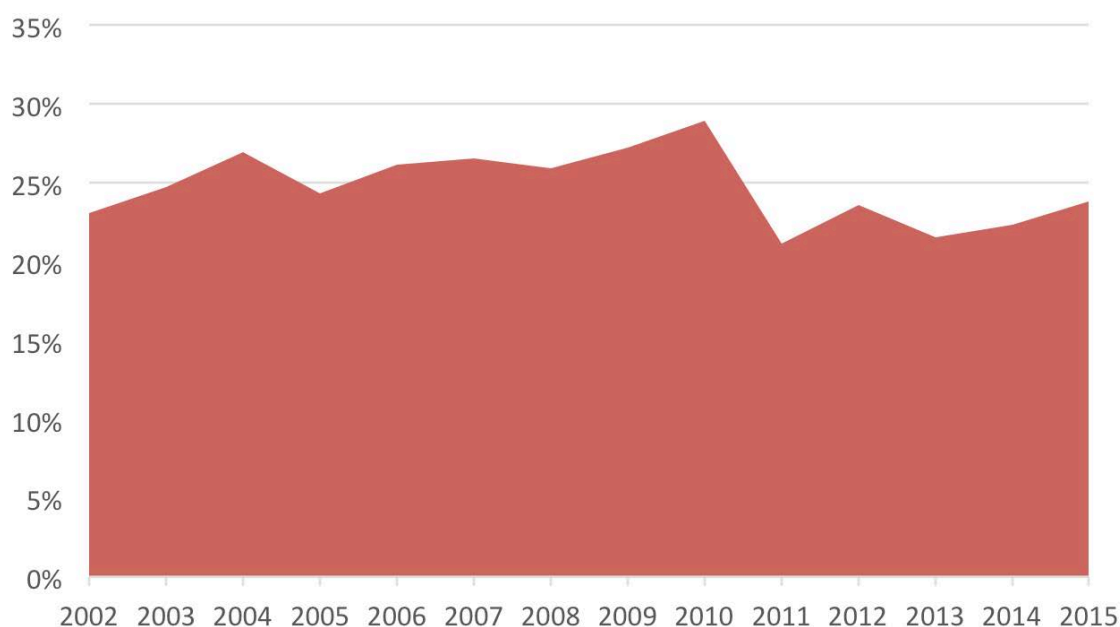
In addition, AVIC had already acquired Cirrus' Alabama-based engine supplier Continental Motors in 2010, so buying

Cirrus outright would be another strategic decision to generate synergies and push toward more vertical integration. AVIC had clearly thought about this potential buy and its interest did not emerge out of the blue.

### How Much Was Cirrus Worth?

Since Cirrus is a privately held company, it's difficult to determine its proper valuation at a given point (see Figure 5). But because the company's revenue primarily came from selling its two models, the SR-22 and SR-20, its revenue can at least be estimated on the basis of how many planes it had sold.



**Figure 5. Cirrus' Market Share**

Source: General Aviation Statistical Data Book, 2015.

In 2007, Cirrus sold 710 planes—122 SR-20s and 588 SR-22s—at an average price of about \$500,000 (prices differ, depending on configurations and specifications). This translates into estimated revenue of about \$350 million that year, which is consistent with estimates found in unofficial sources.<sup>59</sup> By 2012, Cirrus had sold only about one-third the number of planes compared to 2007—48 SR-20s and 207 SR-22s, including 102 of the pricier SR-22T models—implying annual revenue of roughly \$150 million.

Profit figures for Cirrus are not available. But based on the estimates above, the company's revenue dropped nearly 60 percent between 2007

and 2012. In a 2011 interview, Cirrus Executive Vice President Todd Simmons told the media "[Cirrus] posted its third consecutive loss, although the loss was smaller than the previous two years."<sup>60</sup> Since Cirrus' market share in the single-engine category had been stable during the past decade, the valuation of Cirrus' existing business would largely be determined by the function of the projected potential growth of its aircraft market segment.

What is much less straightforward is how AVIC would have valued Cirrus' new personal jet business line, which at the time of the deal was still in development and came with an unproven market for the product. That uncertainty about

market potential, combined with the large capital expenditures required to support the venture, especially with Cirrus losing money, surely did not argue for a bullish valuation.

Yet from the perspective of AVIC's subsidiary, CAIGA, Cirrus' value may have been higher than what was on paper. That was (and remains) because of the potential to scale up Cirrus production to meet growing demand in the Chinese general aviation market. With anticipated deregulation of airspace—largely controlled by the Chinese military—and other aviation-related reforms underway, there was good reason for CAIGA executives to believe that the Chinese general aviation market could outperform markets elsewhere, which would enhance Cirrus' future sales as it expanded its networks in China.

Even assuming relatively slower economic growth, the release of pent-up demand as a result of regulatory reforms in the Chinese aviation sector likely gave an investor like CAIGA sufficient cause to be more bullish on the prospects of the Cirrus acquisition, notwithstanding its sales, financial, and other problems. In fact, CAIGA's US President Zhang Xuming reinforced that sentiment in a public statement, "One day," he said, "the boom in China's auto industry will be replicated in the aviation sector and [so having] US assets will make AVIC better equipped when that [time] comes."<sup>61</sup>

It is worth noting, too, that CAIGA's easy access to long-term financing made buying Cirrus a light lift. Its parent, AVIC, is one of the most powerful and strategic central SOEs. So unlike other global aviation firms, CAIGA was scarcely affected by the capital market squeeze in the aftermath of the financial crisis. The company's "soft budget constraint" within China's political system meant that CAIGA could afford to be less preoccupied with short-term returns on investment, when compared to a US or other international investor that needs to worry about near-term performance and cash-flow management.

### ***Chinese Surprise: A Drama-Free Acquisition***

For two years, the Cirrus negotiation with CAIGA remained secret, and the precise details and specific terms are still not a matter of public record. Cirrus was a privately held company, while CAIGA was a central SOE with longstanding military ties. Neither party had an obligation to divulge details, and publicity during negotiations would have surely raised eyebrows and political hackles.

But Cirrus also kept mum on whether it was merely looking for capital infusion to complete its long-delayed personal jet program or seeking a full-fledged sale of the company. When asked about a potential sale at the time, Dale hedged his response: "We'd prefer an investment and that's what we're trying to find...but there may come



a time when we have to look at the alternatives—including a sale.”<sup>62</sup> He did alleviate observer concerns, however, with assurances of not moving the company and jobs out of the United States in the event of a sale.<sup>63</sup>

As late as three months before the deal was actually announced, Dale still argued, “It’s way too early to suggest that we have a deal.”<sup>64</sup> And when the transaction was publicly announced in Duluth on February 28, 2011, the parties attempted to mitigate widespread local and national concern about the implications of a Chinese acquisition of a US aircraft manufacturer, including for both jobs and national security.

But the Cirrus deal surprised on the upside. For all the ways that such a deal could have been complicated politically, not least because of the identity of the Chinese buyer, including as a supplier to the Chinese military, and national security and technology transfer concerns, the acquisition actually turned out to be relatively smooth sailing. It received only a muted response in Washington, DC.

In March 2011, Rep. Chip Cravaack (R-MN), Vice Chair of the House Transportation and Infrastructure Aviation Subcommittee and a former Northwest Airlines pilot, sent a letter to then-Treasury Secretary Timothy Geithner, who chairs the Committee on

Foreign Investment in the United States (CFIUS) review process. In his letter, Cravaack expressed concern about the pending sale and urged CFIUS to “use extreme caution when dealing with the China Aviation Industry General Aircraft Company’s bid to purchase Cirrus Industries Incorporated [the parent company of Cirrus Aircraft]...My main goal is to ensure the high-skilled jobs at Cirrus stay in Minnesota, instead of being shipped overseas to one of our main competitors in the global market. On top of that, I have serious concerns with the transfer of advanced aircraft technology from Cirrus to a company that is

essentially owned and operated by a Chinese government-run defense contractor.”<sup>65</sup>

But Cravaack’s letter didn’t persuade a longtime Minnesota antagonist, former Rep. Jim Oberstar (D-MN), who helped bring Cirrus to Duluth and had been upset by Cravaack for the 8th district Congressional seat in the 2010 election. Oberstar, who had held the seat for 26 years, publicly offered a counterargument. The deal, he said, was “an all-around strong, good development. We have nothing to fear from an investment such as this by the Chinese.”<sup>66</sup>

Cirrus also pushed back. Wouters, who was leading the Cirrus sale, countered that Cravaack’s letter was “completely wrong on the facts.” Wouters argued that the sale of the company did not

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mean that the airplanes would be built in China, in part because that would be more expensive. He estimated that moving production to China “would add an additional \$35,000 to each airplane sold, and that would not be cost-effective.”<sup>67</sup>

Cravaack’s national security concern was strongly voiced but, ultimately, did little to affect the eventual outcome of the transaction. CFIUS unconditionally approved the deal—apparently requiring no additional mitigation actions—and the \$210 million purchase was completed in June 2011.

This relatively unfettered review process likely owed something to the fact that this was not AVIC’s first acquisition in the United States and it was more familiar with the process. Despite the fact that it is a central SOE in a strategic sector, AVIC has, in fact, navigated the regulatory and legal landscape in the United States better than most other Chinese SOEs.

It has certainly helped that AVIC has operated in the US market for 30 years, having established a US office in 1987 and attempted its first US acquisition as early as 1989. That initial effort was ultimately rejected by CFIUS in February 1990. The deal involved the attempted buyout of Seattle-based Mamco Manufacturing Inc., a metal parts supplier to Boeing. Part of the reason for the failure was that at the time, the US government had tightened control

over high-tech exports to China as part of a raft of measures and sanctions undertaken after the Tiananmen Square crackdown.

According to Zhang, the president of AVIC’s US division, the company laid low for a period thereafter, “We didn’t expand our business for years [in] that political atmosphere.”<sup>68</sup> As a result, Zhang and his small team kept a low profile and limited its activities in the US market until assets became available after the financial crisis. In the year prior to the Cirrus deal, however, AVIC grew active—it acquired two American firms, both in the aviation industry and both approved by CFIUS.<sup>69</sup>

### ***Cirrus’ Post-Acquisition Performance***

The AVIC acquisition of Cirrus turned out to be an example of a Chinese M&A success since it grew the target company’s business, employment, R&D budget, and physical assets. Since 2014, Cirrus’ annual new aircraft deliveries have exceeded 300 units.<sup>70</sup> Public records reveal that Cirrus exported more than 150 planes to China during 2014–2015, accounting for a quarter of the company’s entire production over the same period.<sup>71</sup> According to Ian Bentley, Cirrus’ managing director for emerging markets, “Year-on-year deliveries are expected to grow for the next few years as Cirrus’ backlog in China is growing.”<sup>72</sup>

Moreover, as post-acquisition production recovered, Cirrus increased its US labor

force by more than 10 percent and added a 40,000-square-foot assembly plant in Duluth.<sup>73</sup> A new owner with deep pockets certainly made the financing of Cirrus' new projects easier. For instance, CAIGA has provided \$100 million for the development of the Vision SF50, including building a \$10 million, 60,000-square-foot facility for production of the aircraft.<sup>74</sup>

Yet the current state of the relationship between Cirrus and CAIGA is not well understood. In an interview, a director of international affairs at Cirrus remarked that the relationship between the two companies is still evolving and that the development of China's general aviation market, despite the bullish predictions, remains uncertain.<sup>75</sup> He did add, however, that much like other aircraft companies, Cirrus had investigated exploring parts production and supplier sourcing in China, an option it had been looking into for several years. That suggests that the company could begin producing in China, not just exporting to China from the United States, in the future.

This had been Dale's belief in 2013. He argued that the liberalization of Chinese airspace to private aircraft would lead to market demand that

exceeded the capacity of Cirrus' domestic Duluth operations. The net result, he figured, would be that Cirrus needed to explore the possibility of manufacturing some products in China to meet the rising demand in that market.<sup>76</sup> This is a classic case of being closer to your customer base to better serve it.

Ultimately, the aviation sector, including in the United States, displayed many characteristics of the post-financial crisis search for assets by Chinese investors, who scoured the globe looking for opportunities. Cirrus' acquisition took place within that context.

Yet not all investments in the general aviation sector fared equally well. To the contrary, finding an attractive asset does not mean that an investor will necessarily close the deal. At about the same time Cirrus finalized its sale to AVIC, another legendary US aviation firm—Hawker—was also on the verge of bankruptcy. It too was desperately in search of new capital to stay afloat. Hawker also turned its eyes to the prospect of Chinese capital. But ultimately, Hawker's dealings with its Chinese investors turned out very differently.

## Hawker Beechcraft: How an American Aviation Giant Lost Momentum

**H**awker Beechcraft was formed through the merger of two legendary aircraft manufacturers: Great Britain's Hawker Siddeley Aviation and America's Beechcraft. A short detour into the companies' respective corporate histories is useful, in part to understand how the British firm ended up in American hands.

Hawker dates to 1920, when it was known as H.G. Hawker Engineering. Founded by aviation engineer and test pilot Harry Hawker and three colleagues, the company had its roots in

the bankruptcy of Sopwith Aviation Company, the firm from which Hawker purchased its initial assets. In 1935, Hawker merged with Armstrong Siddeley, an engine producer, to form Hawker Siddeley Aircraft.

Since its inception, Hawker has produced both military and civilian planes. But in its early years, it was best known as a maker of the legendary fighter plane that played an indispensable role in World War II. During the Battle of Britain, Hawker's Hurricane fighters shot down more German *Luftwaffe* planes than the rest

of the equipment in the British Royal Air Force combined.<sup>77</sup>

But the storied firm later came under government ownership. In 1977, Britain's Aircraft and Shipbuilding Industries Act nationalized Hawker Siddeley's aviation assets, which and became part of the British Aircraft Corporation. In 1993,

British Aircraft sold its business jets line, which was comprised largely of the former Hawker Siddeley Aviation, to Raytheon, the US industrial conglomerate and major defense contractor.



Photo: @Beechcraft (Image: Bonanza-G36)

The US giant hoped this deal could cement its efforts to expand its civilian business and thereby offset a decline in its military business, which had been affected by defense budget cuts with the end of the Cold War.<sup>78</sup> But in addition to business diversification motives, Raytheon also hoped to cut costs by moving Hawker's production to the United States, integrating it with Raytheon's existing aviation manufacturing segment.

As with all such plans to relocate production after a foreign acquisition, this move proved controversial, in large

part because it would spell the end of business jet manufacturing in Britain.<sup>79</sup> Nonetheless, Raytheon executed the plan and managed to move all of Hawker's production to Wichita, Kansas.

Locating Hawker in Kansas made sense. In 1980, Raytheon purchased another Wichita-based aviation firm, Beechcraft, which was the world's top general aviation aircraft producer at the time. Beechcraft dates to 1932, when it was established by the couple Walter and Olive Ann Beech in Wichita. Walter worked in sales at Curtiss-Wright, a major US aircraft producer. But as an aviation enthusiast and pilot, he just did not like the fact that his job kept him away from aviation production. Ultimately, he quit his job and founded Beechcraft with his wife.<sup>80</sup>

The Beechs' dream was to define the highest standard in aircraft performance. Indeed, Beechcraft came to produce many classic aircraft models, like the Bonanza. The Bonanza came to be known for its reliability, comfort, and a proven airframe. First introduced in 1947, the Beechcraft Bonanza is still in production, making it the longest continuously produced aircraft in US history.<sup>81</sup> After Walter passed away in 1950, Olive Ann assumed leadership of the family business and presided over a period of impressive growth.<sup>82</sup>

When it combined its recently acquired asset with Beechcraft, Raytheon saw synergies, including the

advantage of co-locating the two firms in Wichita. By 1994, then, Raytheon had completed the merger, renaming the new firm Raytheon Aircraft, while maintaining the "Hawker" and "Beechcraft" brands to demonstrate a historical lineage to the renowned Hawker and Beechcraft firms.

Judged by business metrics, Raytheon Aircraft performed decently. Its sales of business jets and turboprop planes grew steadily and it introduced several new models, including the ambitious Hawker 4000 business jet. That model was intended to be "the flagship of the Hawker line" and to "set the standard for quality, performance, and value in the super-midsize class of aircraft."<sup>83</sup>

But Raytheon had long struggled to build stronger linkages between its commercial aircraft business and its core defense business lines. Eventually, Raytheon acknowledged that Raytheon Aircraft was not really complementary to its core business and, in any event, was proving tough to integrate smoothly.<sup>84</sup>

In July 2006, Raytheon finally announced that it would consider selling its Raytheon Aircraft division to focus on its core military and technology lines.<sup>85</sup> That decision was made at a time when US military spending had begun to boom again amid the first Gulf War, even as the civilian aircraft market remained lackluster.



For this reason, in December 2006, Raytheon decided to sell its aircraft division to Goldman Sachs Capital Partners and Onex Corporation for \$3.3 billion, and the firm was once again renamed with the historically resonant “Hawker Beechcraft” moniker. Since Raytheon Aircraft’s earned net income was \$181 million in 2006, the \$3.3 billion purchasing price was about 18 times its 2006 profit, implying that by late 2006, the acquirers still saw the company as having growth potential.<sup>86</sup>

Like most buyouts, the purchase of Raytheon Aircraft was financed by debt that the new company needed to repay. This meant that the new Hawker Beechcraft company was already more than \$2 billion in debt just as soon as it was formed.<sup>87</sup> With hindsight, two years before the financial crisis, 2006 was a terrible time to incur so much debt. In fact, the burden of servicing its debt eventually bankrupted Hawker.

### ***The Financial Crisis Roils Hawker***

Like Cirrus, Hawker Beechcraft was not immune to the global financial crisis that spread across the globe in 2008. The economic volatility that ensued so severely damaged Hawker that it simply was not able to recover.

With the firm already mired in debt, Hawker posted a significantly weaker performance than its competitors in the sector.

Of Hawker’s three business lines—business jets, turboprops, and piston-powered personal planes—the first two product categories contributed the majority of the firm’s revenue. Yet the company’s business jet shipments took a nosedive during the

financial crisis and significantly underperformed when compared to the sector average (see Figure 6).

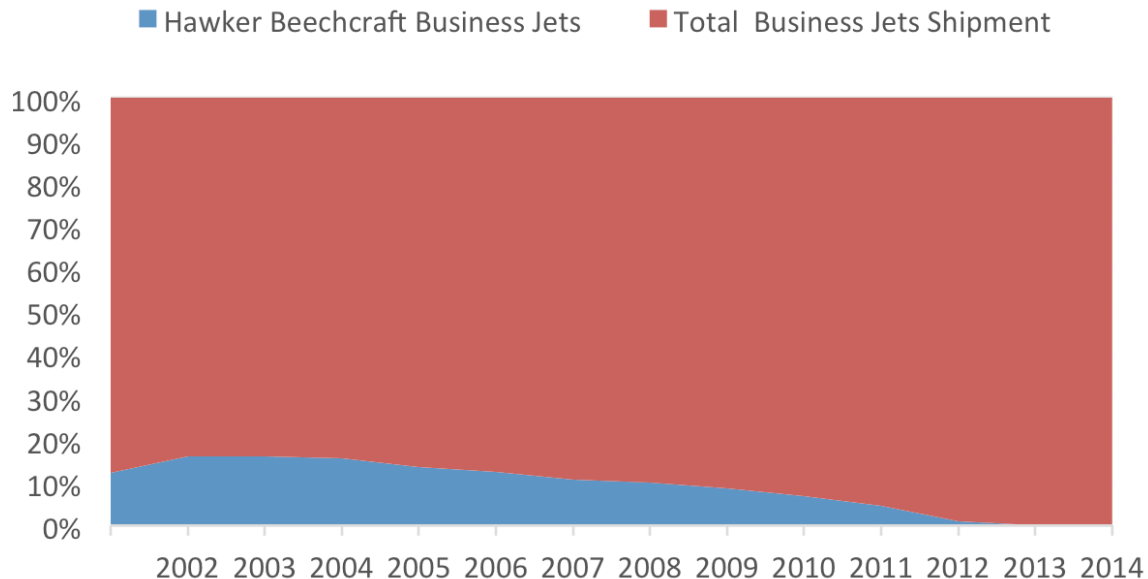
Part of the reason was due to the series of unexpected supply and regulatory

disruptions. For instance, Hawker’s flagship product, the Hawker 4000, developed a software related supply disruption in 2011 and the firm was not allowed to sell the product in the European market until late 2011 because of delayed certification by the European Aviation Safety Agency.<sup>88</sup> In addition, after 2010, the fear of a possible Hawker bankruptcy led to numerous cancelled orders for its planes.<sup>89</sup>

By 2011, two years after the worst of the crisis had subsided, Hawker’s outstanding debt totaled \$2.14 billion, with the firm losing another \$600



Photo: Flickr/Jens Dahlin

**Figure 6. Hawker Beechcraft Business Jet Sales Decline**

Source: General Aviation Data Book, 2015.

million the same year.<sup>90</sup> The firm subsequently slowed development of its new Hawker 200 jet model and announced that it would seek relief through a \$182 million revolving line of credit, in light of continued poor economic conditions and subpar sales performance.

A default seemed inevitable because Hawker was on the precipice of violating the terms of its principal loan agreement, which stipulated that cash flow must grow. Some suggested that lenders cut the company some slack before calling the loan. Yet none of this prevented bankruptcy rumors from bursting into the public by March 2012, shortly after a corporate turnaround expert, Steve Miller, was named the

new CEO (former CEO Bill Boisture was moved into the role of chairman).

Although Miller made a spirited effort to overcome Hawker's financial challenges and avoid having to file for Chapter 11, company prospects remained dim. In an April 2012 report to the US Securities and Exchange Commission, Hawker management noted that additional financing would be needed due to recurring negative cash flows and operational losses totaling more than \$1 billion. These came on top of the \$2.3 billion in debt and multiple missed interest payments. Ultimately, Hawker filed a Chapter 11 petition on May 3, 2012 at the US Bankruptcy Court for the Southern District of New York.

At this point, the company had two practical choices: (1) to pursue a separate debt-to-equity transaction; or (2) to conduct sale of most of Hawker's assets to a third-party. Importantly, Hawker intended to discontinue its jet business as part of the sale to a third party if it could not relinquish that division.

In hindsight, it seems clear that Hawker pursued both of these exit strategies simultaneously as a hedge. According to Hawker's team, there had already been an agreement with creditors for debt-equity swaps while Hawker was searching for a buyer.<sup>91</sup> Rhode Island-based Textron (also Cessna Aircraft's parent company) had long expressed interest in Hawker, even after the Chinese investor's bid for the company was made public (see more details below).<sup>92</sup> All of these factors suggest that Hawker always had a potential "Plan B," even as it looked for global buyers, including the Chinese.

It didn't take long for an interested buyer to emerge. Soon after Hawker filed for bankruptcy, a little known

Beijing-based entity, Superior Aviation, approached Hawker to express its interest in acquiring all of Hawker's assets for \$1.79 billion. This was the only formal offer Hawker had received to date.

Superior's proposed post-acquisition plan ostensibly offered the most continuity for Hawker's existing business, allowing the firm to preserve jobs and product lines, and to fulfill its existing commitments to customers. As part of its pitch, Superior vowed that, if the deal went through, it would buy all of Hawker's assets—with the exception of its defense segment—and keep Hawker's existing operations in Kansas while injecting capital into the company.

With no competing bids in sight, this Chinese offer was attractive at face value. So Hawker's legal team decided to enter into negotiations. But who exactly was Superior Aviation, and how did the mysterious businessman behind it have the capital to invest nearly \$2 billion into an American aviation firm?



## Superior Aviation and Its Mysterious Chinese Owner

Beijing Superior Aviation was just two years old when it entered negotiations to acquire Hawker. Superior is 60-percent owned by a Chinese businessman Cheng Shenzong,<sup>93</sup> who hails from China's Shandong province on the northeast coast. By the time Cheng decided to enter the aviation market, he had decades of experience in wholesale trade, and had dabbled in real estate investment but not a sector like commercial aircraft.<sup>94</sup>

Cheng's profile is not atypical for many private businessmen in China. But because he was an unknown quantity in the global aviation industry when he bid to acquire Hawker, it caught many by surprise, including even those within Cheng's own local Chinese business community. He was a complete stranger, popping up suddenly on the scene to buy a legendary US brand.

What little can be pieced together about Cheng's background includes stories from his childhood friends that describe him as having a youthful interest in aviation and model airplanes. He is said to have been able to tell the model and make of various airplanes as they flew overhead, according to public sources.<sup>95</sup> A childhood hobby is one thing, but making a substantial strategic investment in a major aviation company with no

prior experience in the sector requires a very large leap. Hawker was not Cheng's first aviation investment play, however. His initial effort was more modest.

### *Cheng Helicopters into a Boondoggle*

In 2006, Cheng decided to take over US-based piston helicopter maker Brantly. This firm had been previously owned by the Beijing Foreign Enterprise Human Resources Service (FESCO), a local SOE in Beijing. FESCO acquired Brantly in 1994 from its previous owner, a Japanese-American businessman named James T. Kimura.<sup>96</sup> Cheng managed to

*He was a complete stranger, popping up suddenly on the scene to buy a legendary US brand.*

acquire the Brantly asset for free, though precisely how he did so remains murky.<sup>97</sup>

One possible explanation is that Brantly was virtually a junk asset at the time Cheng acquired it. Its helicopters had been developed in the 1950s and had not sold well for decades. Since 1999, for example, Brantly sold a total of just 12 helicopters.<sup>98</sup> By the end of 2015, the entire Asia-Pacific region had just four Brantly helicopters in service, accounting for less than 0.1 percent of the regional market share.<sup>99</sup> China itself currently has only two Brantly helicopters, not the hallmark of a product in high demand. One senior Chinese aviation executive described Brantly's technology as "out

of date,” noting that the firm had “little demand” for its choppers.<sup>100</sup>

Technology had much to do with the helicopters’ lack of appeal. The aging Brantlys all used inferior piston engines, which, while making them some of the cheapest helicopters in service in the Asia-Pacific region,<sup>101</sup> also meant a customer would have to tolerate limitations on speed and a low service ceiling when compared to turbine-based helicopters.

But these factors probably did not matter much to Cheng. He had no prior experience in aviation and had run businesses in entirely unrelated sectors, so his investment strategy for Brantly was probably strongly informed by the priorities set in China’s 11th Five-Year Plan (FYP, 2006-2010). That plan made general aviation a national strategic high-tech sector and prioritized establishing a domestic manufacturing capacity for general aviation planes and helicopters.<sup>102</sup>

The timing of Cheng’s first aviation venture is important. It came on the heels of the 11th FYP launch in March 2006. In a 2009 interview, Cheng acknowledged that his confidence in the aviation market came mostly from the fact that the 11th FYP had prioritized the development of the general aviation industry.<sup>103</sup> In that context, Cheng saw an opportunity, however vaguely.

At the same time, Cheng’s home province Shandong wanted to align its own priorities with those in the 11th FYP. After acquiring Brantly, Cheng set up two facilities in Shandong to make helicopters, based on the Brantly model. Local municipal governments in Shandong provided Cheng with free land and tax rebates, as well as offering to construct the plant and allowing him to use the facility for three years. The first of these factories, Haili Helicopter, was located in Qingdao, a major industrial and coastal city in Shandong, best known in the United States for its beer. The second factory, Weifang Tianxiang Aviation Manufacturing, was located in the city of Weifang, the hometown of Chinese kite making.

Indeed, the Shandong government seemed rather pleased with Cheng’s factories. After all, when it issued its provincial plan for developing an aviation industry in 2010, it listed both of his helicopter companies as flagship aviation manufacturers that would enjoy all types of provincial support and subsidies (a total of five Shandong companies qualified for this distinction).<sup>104</sup>

What’s more, since Brantly was still registered in the United States, its two helicopter factories qualified for additional benefits because they could technically claim to be examples of “foreign investment.” In addition, since helicopter manufacturing was listed under the “encouraged”

category in China's Catalogue Guiding Foreign Investment in Industry (at that time, the definitive list of industries that were either “encouraged, restricted, or prohibited” from foreign investment), Cheng’s helicopter manufacturing plants were entitled to incentives from the Chinese central government too.<sup>105</sup>

By May 2009, Cheng’s Haili factory in Qingdao produced its first helicopter, the B2-B,<sup>106</sup> while the Weifang factory focused on the development of an unmanned version of the B2-B called the V750, which referred to the helicopter’s maximum takeoff weight of 750 kilograms (1,650 pounds). The development of V750 took several years, with the first test flight in 2011.<sup>107</sup>

These factories were designed to have an annual production capacity of 80 light helicopters. However, China as a whole only bought about 100 helicopters per year and Chinese domestic manufacturers accounted for less than 3 percent of the country’s helicopter market. Since Brantly models were anything but state-of-the-art, Cheng was rather naively optimistic and confident about his helicopter business from the get-go.

Indeed, it was not long before it became clear why FESCO had been willing to forfeit the Brantly assets to Cheng for virtually nothing. In early 2012, three years after the Haili plant began production, the factory inexplicably stopped operating as demand for its helicopters did not materialize. Officials managing the industrial park in which the factory was located had no idea whether the company had even sold a single helicopter since launching production.<sup>108</sup>



Photo: Flickr/Alan Stoddard

Troubles quickly accumulated for this fledgling helicopter maker. In 2014, Qingdao Haixi City Investment, a Qingdao municipal SOE that had provided Cheng with the free plant for three years,

brought a lawsuit against Haili for damages associated with its refusal to return the facility on time.<sup>109</sup> The Chinese courts ultimately did not issue a legal opinion on this issue, as the original agreement between Haixi and Haili indicated any dispute should be settled through arbitration. Still, the court documents provided some revealing details about Haili’s business, for example by indicating that it was on the verge of collapse by mid-2012.<sup>110</sup> Various media reports from the time also corroborated the details of the court document.<sup>111</sup>

Reports in September 2012, for instance, noted that Haili had already been closed for seven months (since the Chinese New Year the previous February), with no signs of resuming production.

Two other lawsuits filed against Haili indicated that it had been borrowing money to pay its employees. And Cheng's personal equity in Superior's parent company, Beijing *Supeiyouru* ("Superior" rendered in phonetic Chinese), is currently frozen by the Shandong Jinan court, citing a failure to repay loans.<sup>112</sup>

Cheng's Weifang plant did not fare any better. Two creditors, one of them a local SOE, had filed a similar lawsuit because of Weifang's failure to repay loans, and as of this writing, the lawsuit is ongoing. As a result, the local court in Weifang also froze the factory's assets of 24.9 million yuan (\$3.5 million).<sup>113</sup>

### ***Cheng Somehow Lands in the Good Graces of Beijing E-Town***

The failure of the Brantly venture did not deter a determined Cheng, however. In September 2009, while his helicopter business was unraveling, Cheng had also bought a second US aviation asset, Superior Airparts, from its bankrupt German parent company Thielert for \$7 million. As its namesake implies, Superior was a supplier of aviation piston engine replacement parts.

The price tag for Superior was relatively modest for this kind of asset, yet it still constituted real money, and money that Cheng did not have at the time. As a result, Cheng was forced to borrow more than \$9 million, using his helicopter factories as collateral. He later admitted that he had even borrowed his relatives' assets to use as collateral to buy Superior.<sup>114</sup> Cheng's inexperience with foreign acquisitions was one of the reasons he had to borrow so much: he had to pay hefty legal and due diligence fees to the tune of \$4 million.<sup>115</sup>

According to Cheng, the reason he purchased Superior was that he thought it could eventually help him build engines, with which he hoped to outfit his helicopters. He was not necessarily wrong in thinking that the ability to build high quality engines would be indispensable if he aimed to manufacture his own airplanes and helicopters down the line. Cheng later gushed publicly that the day the bankruptcy court awarded Superior to him, he was too excited to sleep.<sup>116</sup>

But Cheng's excitement belied the fact that, unlike the seasoned and experienced AVIC that acquired Cirrus, he was fundamentally a novice when it came to the aviation industry (see previous section on Cirrus). To many outside observers, Superior's business was focused primarily on engine maintenance and repair, and the firm did not actually produce engine parts. This

begged the question of just how Cheng could try to leverage Superior to realize his objective of making aircraft engines.

Much as Shandong had championed Cheng's efforts with Brantly, he found new champions in the Beijing municipal government, some of whom apparently shared his vision, however muddled it may have been.

In early 2010, Beijing's then-Vice Mayor Gou Zhongwen, who was in charge of industrial policy for the Beijing government, personally invited Cheng to move his Superior "aviation engine" company, which was then held under Cheng's Weifang entity in Shandong, to Beijing. The vice mayor bluntly told Cheng that he would be able to help him with his business in exchange for Cheng's help with Beijing's efforts to develop its general aviation industry.<sup>117</sup> As one of the most powerful municipalities in China and the seat of the central government, Beijing clearly wanted to lead the way

in aligning with national industrial policy to support the development of a domestic general aviation industry.

Much about Cheng's discussions with Beijing authorities remains unclear, but he was supremely confident that Superior would become integral to the capital's aviation-related plans. Thus, Beijing Supeiyourui was established in July 2010, with an investment of 80 million yuan (\$11.5 million) from E-Town International Capital, an arm of the Beijing government that manages billions to invest in strategic priorities and other local development efforts. Cheng pledged an additional 120 million yuan (\$17 million) of both cash and in-kind investment into the company, and eventually he became the controlling shareholder of Superior. Cheng was appointed Chairman of Superior Beijing, while senior executives from E-Town were made Vice Chairman and Chairman of the Supervisory Board, respectively.<sup>118</sup>

## An Awkward Dance: Superior and Hawker Unexpectedly Part Ways

### Things Were Going Well ...

After an initial back and forth, Superior and Hawker agreed to enter into an exclusive negotiation for the Chinese party to purchase all of Hawker's assets. And on July 17, 2012, a US Bankruptcy Court in New York officially authorized Hawker to commence a 90-day "exclusivity negotiation" with Superior.<sup>119</sup> As a precondition, however, Hawker's legal representation demanded that Superior pay for the right to its exclusivity, in part because Hawker itself would have to incur costs to sustain its jet business on each day that the company was not formally in bankruptcy.



Photo: Flickr/Dmitry Terekhov

Hawker's negotiation team put it this way: "If you want to have an opportunity to buy the company and you want us to put other aspects of the bankruptcy case on hold for 90 days while you do your due diligence and get your act together, you're going to have to pay us for that."<sup>120</sup>

Hawker's legal representatives worked with the company's financial advisor,

Perella Weinberg Partners LP, and its restructuring advisor, Alvarez & Marsal, to determine the amount it would cost Hawker to be in bankruptcy for three months longer than it otherwise would. They arrived at an estimate of \$50 million, a figure determined in part by the fact that Hawker's business jet division was losing money daily. Hawker actually wanted to shut down this entire business line, but Superior, citing a strong interest in the business jets,

insisted it be kept open and agreed to pay the amount to postpone discontinuation of the division.

The result was a provision in the agreement that read, "If the parties consummated the

Proposed Transaction, the \$50 million payment would be credited against the purchase price ... If the Proposed Transaction was terminated after October 19, 2012, the Refund Amount shall be deemed to be zero."<sup>121</sup>

Although the two sides didn't haggle over the dollar amount, there was nonetheless some dispute over precisely how Superior would pay the \$50 million. Hawker's team described



this process as being “comical” at times.<sup>122</sup> Superior first offered a verbal promise, which Hawker’s deal team roundly rejected. Superior then proposed holding the deposit in a Chinese bank in Beijing, which Hawker’s team also rejected. What about a Chinese bank in the United States? That’s still a “no” from Hawker. Finally, Superior agreed to deposit the \$50 million in an American bank, physically located in the United States, once it became clear that Hawker’s team would not budge on its terms.

Despite these tussles, Superior’s willingness to pay the \$50 million was viewed as a positive sign by Hawker’s team. They judged Superior, for all the haggling, to be a party with which they could negotiate. According to one of Hawker’s representatives, “We were shocked when they came forth and offered the \$50 million in the first place. [This] was, for all intents and purposes, a nonrefundable deposit, because it’s not like they had any competition that compelled them to do so. No other economic actor would have gone through and paid the \$50 million. To us, that indicated a certain degree of commitment to going through with the transaction.”<sup>123</sup>

From July to September 2012, both sides entered vigorous negotiations that resulted in a tentative 200-page contract. Most important, the acquisition price was set at \$1.79 billion, a high valuation that pleased both Hawker and its creditors. For

Hawker’s team, the “\$1.79 billion was a very robust and attractive number, and the creditors would have loved for Superior to have been able to get a bid together.”<sup>124</sup>

### ***... Until Hawker Got Blindsided***

But then it all went south. In late September 2012, Hawker’s attorneys flew to Beijing with the intent to flesh out final points of the deal and get Superior to sign on the dotted line. Prior to the trip, the team had been negotiating for months with Locke Lord LLP, the law firm representing Superior. According to Hawker’s attorneys, the two legal teams had agreed on a very detailed asset purchase agreement that was “effectively final” by the time of these pivotal meetings in Beijing.

But when Hawker’s team walked into the final round of meetings in Beijing, they sensed something had gone awry. For one thing, Cheng was not present, even though he had shown up at all previous meetings alongside his American advisors. Instead, an unknown woman sat across the table and introduced herself as a representative of the Beijing municipal government. According to Hawker’s attorneys, this individual’s specific role was never made clear, but she conducted herself in an authoritative, matter-of-fact manner and delivered a message in the tone and body language of someone who was “used to getting what they want.”<sup>125</sup>



At this point of the negotiation, such surprises are not welcomed. Although Hawker's team knew little about the chairman of Superior, at least they had been dealing with Cheng consistently throughout the entire process. Now, they sat opposite a new counterpart, a complete stranger who just mysteriously assumed Cheng's role in the negotiation. What they could deduce was that she worked for the Beijing municipal government and was presumably connected to E-Town, which had financially backed Cheng. But that was about all. Indeed, Hawker's team was not aware of any E-Town or Beijing government representatives who had participated in prior meetings.

The cues from the Beijing official's body language signaled to Hawker's team that the deal had taken a wrong turn.<sup>126</sup> And their suspicions turned out to be right. At one of the final meetings, Superior's team—led by the new Beijing government representative—rejected the carefully deliberated, 200-plus page contract that the two sides had discussed for months. At this point, Superior was nearing the end of its 90-day period for conducting due diligence.

The Beijing meetings were intended to deliver a final, signed deal. Instead, the new lead negotiator blindsided the Hawker team and handed out a single-page document titled "Key Governing Principles." This laid out a

brand new set of terms and conditions under which Superior would acquire Hawker. According to a Hawker representative, this simple document "... was for an entirely different transaction, completely divorced from reality and analysis."<sup>127</sup> The deal thus unraveled.

Many such transactions are kept under wraps during negotiations, and some degree of opacity and information asymmetry is common in cross-border acquisitions. Still, what transpired during those final meetings was not typical, even with a Chinese party. Hawker's advisors were dumbfounded by the fact that Superior's team thought it could acquire a complex airplane manufacturing business using something

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*Still, what transpired during those final meetings was not typical, even with a Chinese party.*

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other than a real contract. And they were further flummoxed by the lack of sophistication that characterized the

switch-up at such an advanced stage of the negotiations.

The Beijing government representative was apparently caught by surprise when she saw the Hawker party's reaction. One of Hawker's legal advisors recalled that she apparently thought they would negotiate based on the one-pager. "The government representative [who assumed the chairman's role] handed out something that was easily stapled," the advisor recalled. "We were shocked by how they trashed the product of months of negotiation—a 200-page contract. So we just got up and left."<sup>128</sup>

### ***Epilogue: Hawker Finds a New Buyer in Textron***

On October 18, 2012, Hawker Beechcraft formally announced that the parties could not reach an agreement: “It [the firm] is no longer pursuing a transaction with Superior Aviation Beijing Co., Ltd.”<sup>129</sup> Although the negotiation agreement had stipulated that Superior was not eligible for any refund if it sent its termination notice after October 19, Superior still sent such a notice five days later on October 23, demanding a refund of its \$50 million with accrued interest. This would subsequently be fought in the courts.

In March 2013, Superior filed four identical requests for a refund in the same bankruptcy court in New York, claiming that the “\$50 million played a positive role in preserving [Hawker’s] jets business, which is part of the Debtors’ estate, and therefore benefit [sic] the Debtors’ estate,” entitling the Chinese entity to a refund.<sup>130</sup>

It is worth noting that Locke Lord, Superior’s legal adviser throughout the negotiations, did not sign this Termination Notice and withdrew as counsel for Superior before the scheduled hearing on the refund, saying that it had “disagreement” with their client.<sup>131</sup> This was the first sign that Superior’s case might not be as legitimate as it claimed.

As expected, Hawker responded by filing an objection on August 15, 2013,

arguing that Superior did not hold a claim for a refund under the terms of the Exclusivity Agreement and the Refund Agreement. On September 19, 2013, just before the hearing on Superior’s request, the Chinese company’s new legal counsel Morris, Manning & Martin, also withdrew, citing “a material disagreement with Superior about the subject matter of the representation.”<sup>132</sup>

The Chinese firm thus had great difficulty retaining legal counsel. According to Superior, this was because of language and cultural barriers, as well as time zone differences.<sup>133</sup> As a result, Superior repeatedly asked for a postponement of the hearing. Hawker opposed the adjournment, arguing that “Superior was having trouble hiring and keeping US counsel because its position [is] frivolous and risked sanctions.”<sup>134</sup>

The New York court agreed to the initial 30-day adjournment request, but denied the subsequent 90-day adjournment request. Thus, after the initial adjournment period ended on October 25, Judge Stuart M. Bernstein issued his opinion and ruled against Superior’s claims, noting that it had terminated the transaction after the October 19, 2012 deadline that was stipulated in the agreement.

According to Bernstein, “the dispute was not complex, and its resolution depended on reading two letter agreements totaling less than ten pages of text...[Superior Aviation] is not

entitled to a refund under the clear and unambiguous terms of the Exclusivity Agreement and the Refund Agreement, and hence, it has no claim.”<sup>135</sup>

Since Superior lost the case, in retrospect, Hawker’s insistence that the \$50 million be deposited in a US bank may have made a difference. If the money had been deposited in a Chinese bank, it is not entirely clear how this dispute would have been ultimately resolved.

The \$50 million from Superior could not save Hawker, however. When the team returned from Beijing in October 2012, they immediately reached out to their creditors, who approved Hawker’s bankruptcy exit plan in late January 2013.<sup>136</sup>

Under the Joint Plan of Reorganization, pre-petition secured bank debt, unsecured bond debt, and general unsecured claims would be canceled and holders of such claims would receive equity in the reorganized company. Hawker ceased production of its business jets to focus on smaller propeller aircraft for private use, defense applications, and special missions such as search-and-rescue. It also began trying to sell assets—including its Hawker business jet unit and even the Hawker brand, eventually

assuming its current name of just “Beechcraft.”

According to Hawker’s team, industrial conglomerate Textron (also Cessna’s parent company and the owner of Bell Helicopter) had long expressed interest in Hawker, and that interest continued even after Superior’s bid was made public. Like Hawker, Textron had aviation operations in Wichita, so a merger could generate significant cost savings and synergies.

In December 2013, after the completion of the Hawker Beechcraft restructuring, Textron agreed to acquire Beechcraft for \$1.4 billion, bringing it under the wing of a diversified aviation manufacturer.<sup>137</sup> When the deal ultimately closed on March 14, 2014, Textron acquired Beechcraft for an aggregate cash payment of \$1.5 billion, slightly higher than the agreed upon price because it included a repayment at closing of a portion of Beechcraft’s working capital credit facility.

As of January 3, 2015, Textron Beechcraft’s net asset was valued at \$1.5 billion, including goodwill (the value of intangible assets) of \$228 million.<sup>138</sup> A large part of the goodwill was related to expected savings and efficiencies from combining the operations of Cessna and Hawker.

## Why the Superior-Hawker Deal Failed

Three factors combined to end the Superior bid for Hawker:

### (1) Overbidding

Superior's bid of \$1.79 billion was high. Even after Hawker's bottom line improved substantially, as its sales of turboprop planes rose by 50 percent in 2013, the company's fair market value was only about \$1.4 billion, according to Textron's estimate.<sup>139</sup> Therefore, Superior's valuation of Hawker back in 2012 should have been significantly less than what Textron eventually bought it for in early 2015.

At the same time, Superior was less than 1 percent the size of Hawker and had almost no jet manufacturing capacity. Yet the Chinese acquirer bid a higher price than Textron, a much larger firm that also owned Cessna and would enjoy substantial cost savings and synergies. Moreover, at the time Superior faced no competing bids, meaning that the play for Hawker was made in the context of a

buyer's market that should not have necessitated over-bidding.

Finally, although Hawker's business jet division might have had strategic value to Superior or E-Town, the market value of that business line was probably negative by around 2012. After all, Hawker was inclined to shut it down, having failed to sell it. This suggests another discount on Hawker's true market value.



Photo: Flickr/Josef P. Willems

### (2) Bidder Overconfidence and Information Asymmetry

Superior and E-Town probably overestimated their leverage in the negotiations, which may explain the Chinese side's

genuine surprise when Hawker walked away from the deal. One explanation may be that E-Town believed its offer was the only formal one that Hawker had received, not realizing that the US firm always had a back-up plan that its creditors were willing to accept. In short, it was not very costly for Hawker to spurn the deal. Having missed this fact, Superior and E-Town badly misjudged Hawker's bottom line and leverage.

### (3) Principal-Agent Problems

Despite the fact that Superior led most of the negotiations, it appears that the fate of the deal may ultimately have been in the hands of the Beijing municipal government. Cheng's firm was simply too small and too capital deficient to be able to write the \$50 million deposit check, much less afford the \$1.79 billion deal. In 2011, Cheng used two-thirds of his stock in Superior as collateral to borrow 60 million yuan (\$9.5 million) for an undetermined purpose. This implies that the net worth of Superior was perhaps \$20 million, at most. As one Chinese aviation observer put it, "no one believes Superior has the ability to finance this deal; it is the [Chinese] state that is pushing this deal from behind the scenes."

Still, according to Hawker's negotiation team "no E-Town representative participated in the entire negotiation except the last meeting" and "previously, Superior ha[d] not expressed any unhappiness about the deal, including about the price."<sup>140</sup> The fact that E-Town ultimately wanted to jettison the existing agreement—and to do so at the last minute while Cheng disappeared from the negotiation table—suggested that E-Town was not content with the previous negotiations and wanted to assume control.

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*Cheng's disappearing act did not last long, nor did the collapse of the Hawker deal prevent him from pursuing other aviation ventures.*

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Put differently, the agent in this transaction (Cheng) was not financing the deal yet he had been leading the charge on negotiations, while the principal (E-Town) that was actually putting up the money had been largely left in the dark for the duration of the negotiations. Such an arrangement resulted in a classic principal-agent problem.

Superior was clearly motivated by its own interest (chasing Cheng's ambition to build an aviation business), yet cared little about the cost (acquisition price) because it was to be incurred by the Beijing government. When the Beijing government finally realized this, it was too late to salvage the deal.

### "Mysterious" Cheng Reemerges

In the end, Cheng's disappearing act did not last long, nor did the collapse of the Hawker deal prevent him from pursuing other aviation ventures. In October 2014, Cheng popped up again to sign a memorandum of understanding (MOU) with the Shunyi government, a district in Beijing, to build a business jet airport and an "aviation town" with planned investment of \$3.2 billion.<sup>141</sup>

This idea initially seemed to thrill the Shunyi district government. Not only is the Beijing Capital International Airport, one of the world's largest

and busiest, located in the district, the Shunyi government also has long wanted to have its own general aviation industry. After the MOU was signed with Superior, a Shunyi vice mayor began convening working groups to coordinate initial planning for the “Superior Aviation Town,” according to public sources.<sup>142</sup> This aviation town is supposed to be completed by 2017 but, as of this writing, land use records do not indicate any such ongoing project in Beijing.<sup>143</sup>

If nothing else, Cheng is certainly persistent, and his aviation businesses seem to have more lives than a cat. For instance, although his helicopter business has so often seemed to be just one breath away from death, Cheng’s apparent networking and salesmanship have somehow resuscitated it. The facts are not entirely clear, but public reports suggest that since 2015, Cheng has become linked to Xu Zengping, another mysterious businessman who supposedly helped the Chinese military purchase the Varyag aircraft carrier from Ukraine. Xu has apparently acted as the legal representative of Cheng’s helicopter firm, even owning 10 percent of it.<sup>144</sup>

Little can be gleaned about Cheng’s background from public records. And even less is known about the activities of his helicopter manufacturer. But it does appear that Cheng’s factory has manufactured a drone version of the V750 helicopter (noted earlier in this case study) that could have military applications. The drone is allegedly to be outfitted with anti-tank missiles, according to one report. Of some interest is the fact that one of the developers of the V750, China National Aero-Technology Import and Export Corporation, is a key player in the design of PLA fighters and bombers, as well as missile and air defense systems in China.<sup>145</sup>

Perhaps it is because of the new boost in military business that Cheng’s helicopter venture has had a sudden turn of fortune: both the Qingdao and Weifang factories are reportedly once again actively hiring.<sup>146</sup> Cheng has also scoped out aviation business opportunities in other parts of China. Business registration records and media reports suggest that he has contemplated potential investments in at least Ningxia and Liaoning provinces, including yet another business jet airport and an aviation engine factory.<sup>147</sup>



## Conclusion

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Unlike greenfield and other types of strategic investments, M&A deals are relatively straightforward because they typically involve just two primary parties, the seller and the buyer, and the key obstacle is to identify and settle on an agreeable price. The two attempted acquisitions in this case both began with what appeared to be a sound commercial rationale but, along the way, one of them went off the rails while the other sailed through with few hiccups.

The divergence in outcomes of these twin cases has less to do with market dynamics or the assets themselves but, instead, was primarily a result of the two Chinese buyers' distinct approaches to negotiations—and the dramatic difference in their respective understandings of the businesses they sought to buy.

Both AVIC and Superior Aviation rightly recognized the potential of China's general aviation market and the deficit in the country's domestic capacity to manufacture complex and technologically sophisticated aircraft. When the global financial crisis essentially crippled the US general aviation industry, both Chinese firms also realized that they were in a buyer's market and were well positioned

to scoop up valuable US assets. It is easy to see how acquiring Cirrus and Hawker made commercial sense from a Chinese demand perspective. But those assets also made *political* sense in the Chinese context because they would have aligned the firms with China's sprawling industrial policy that gave overwhelming support and priority to the aviation industry.

China's national general aviation industry policy aims to build 50 industrial zones specializing in various aviation projects, with general aviation expected to be a \$150 billion industry by 2020.<sup>148</sup>

This strategic focus will unambiguously induce both the central and many local governments to double down on their support

for general aviation and compete with each other for investment and overseas acquisitions.

Such a strategy may not succeed. But while China is not the only country that employs industrial policy in this way, its heavily state-backed industrial policy can yield mixed results, depending on how it is conducted and deployed.

In AVIC's case, while the firm is an important cog in China's aviation industrial policy, the state giant also happens to have a solid grasp of the

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*While China is not the only country that employs industrial policy in this way, its heavily state-backed industrial policy can yield mixed results, depending on how it is conducted and deployed.*

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global aviation business. Its leaders understood how acquiring a firm like Cirrus made commercial sense and could help facilitate the diffusion of new technology in the Chinese market. This was not AVIC's first acquisition, so the Chinese SOE also understood the need to keep the American management intact and allow the US company to continue expanding and developing new products. Cirrus' solid post-acquisition performance in the China market is some testament to AVIC's decades of experience in the aviation business.

But some of the features inherent in Chinese industrial policy were also responsible for Superior's utterly disastrous outcome. For one thing, the moral hazard issue was on prominent display in the Hawker case. Superior's Cheng appeared able to exploit the Beijing government's loose purse strings and eagerness to build an aviation industry, and he did so to great effect. Cheng essentially succeeded in convincing the Beijing government to bear a disproportionate share of the downside cost if the deal failed. In other words, Cheng was hardly gambling with his own money while the Beijing government's willingness to spend yielded to Superior a "soft budget constraint." That meant Superior could agree to a \$50 million deposit without blinking an eye.

Most Chinese bureaucrats who are tasked with managing government funds to achieve industrial policy

goals are not technical experts in the sectors they are supposed to oversee. For instance, when E-Town became involved with the Hawker bid, its main preoccupation was to build general aviation capabilities in Beijing but the group had little knowledge or expertise of the aviation business.

As if to reinforce this point, E-Town somehow delegated a nearly \$2 billion negotiation to a man who probably knew even less about the aviation industry than E-Town. Nor did Cheng's previous failures and his various connections seem to raise red flags for the Beijing government. Whatever internal recriminations took place after the Hawker deal folded is unknown. But it is likely that the botched negotiations cost E-Town at least \$50 million.

The aviation industry is sensitive to economic cycles. This means that aviation firms tend to be conservative with their financing and try to set realistic targets for expansion and R&D spending. But that was not exactly the case with these two US firms. Just before the onslaught of the financial crisis, Cirrus began developing an entirely new product that required R&D investment. For its part, Hawker borrowed heavily. In both instances, these imprudent strategies turned out to be very costly during the subsequent downturn.

The Chinese aviation industry dodged a crisis after 2008 and actually benefitted from the downturn in the global aviation

market. Yet that may not be the case next time. In another 5 to 10 years, as the Chinese aviation market matures and the pent-up demand is largely met, industry growth will invariably slow down. At that point, another economic recession could prove very challenging for Chinese aviation firms to weather, particularly given their suboptimal management, extensive bureaucracy, and regulations that beset the industry.

Consequently, the Chinese government and domestic aviation firms would do well to absorb some of the lessons from US aviation firms' misfortunes during the post-2008 crisis. Otherwise,

they could meet some harsh realities when the next recession hits.

Ironically, despite all the baggage it carried in terms of being a Chinese defense contractor, AVIC, the state-owned defense and aerospace conglomerate, executed its Cirrus acquisition almost seamlessly.

Instead, it was the private Chinese company backed by a local government financing arm, chasing pipe dreams like antique helicopters and jet engines, that left a trail of failure. Ultimately, knowledge, expertise, and industry experience matter greatly.

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## The Paulson Institute's Program on Cross-Border Investment

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There are compelling incentives for the United States and China to increase direct investment in both directions. US FDI stock in China was roughly \$60 billion in 2010, yet a variety of obstacles and barriers to further American investment remain. Meanwhile, Chinese FDI stock in the United States has hovered at around just \$5 billion. For China, investing in the United States offers the opportunity to diversify risk from domestic markets while moving up the value-chain into higher-margin industries. And for the United States, leveraging Chinese capital could, in some sectors, help to create and sustain American jobs.

As a nonprofit institution, The Paulson Institute does not participate in any investments. But by taking a sector-by-sector look at opportunities and constraints, the Institute has begun to highlight commercially promising opportunities—and to convene relevant players from industry, the capital markets, government, and academia around economically rational and politically realistic investment ideas.

The Institute's goal is to focus on specific and promising sectors rather than treating the question of investment abstractly. We currently have two such sectoral efforts—on agribusiness and manufacturing.

The Institute's aim is to help develop sensible investment models that reflect economic and political realities in both countries.

The Paulson Institute currently has three investment-related programs:

### ***US-China Agribusiness Program***

The Institute's agribusiness programs aim to support America's dynamic agriculture sector, which needs new sources of investment to spur innovation and create jobs. These programs include:

- A US-China Agricultural Investment Experts Group comprised of some of the leading names in American agribusiness. The group brainstorms ideas and helps in the Institute's effort to develop innovative investment models that reflect economic and technological changes in global agriculture.
- Periodic agribusiness-related investment workshops, bringing key players and companies together. The Institute held the first workshop in Beijing in December 2012, whose attendees included numerous CEOs and experts. It has since held smaller sessions in the United States focused on specific technologies or aspects of agribusiness.

- Commissioned studies that propose specific investment models, including for commodities, such as pork, or value chain opportunities, such as collaborative research and development (R&D).

## ***US-China Manufacturing Program***

In June 2013, the Institute launched a program on trends that will determine the future of global manufacturing and manufacturing-related capital flows. We aim to identify mutually beneficial manufacturing partnerships that would help support job growth in the United States. The Institute's principal manufacturing programs include:

- Investment papers that the Institute is co-developing with private sector and academic partners.
- Periodic workshops in Beijing and Chicago with Chinese, American and global CEOs and executives, focused on technological change, sectoral trends, and investment opportunities.

## ***Case Study Program***

The Institute publishes in-depth historical case studies of past Chinese direct investments in the United States, examining investment structures and economic, political, and business rationales. These detailed studies are based on public sources but also first-hand interviews with deal participants on all sides. They aim to reconstruct motivations and actions, and then to draw lessons learned.

## About The Paulson Institute

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The Paulson Institute, an independent center located at the University of Chicago, is a non-partisan institution that promotes sustainable economic growth and a cleaner environment around the world. Established in 2011 by Henry M. Paulson, Jr., former US Secretary of the Treasury and chairman and chief executive of Goldman Sachs, the Institute is committed to the principle that today's most pressing economic and environmental challenges can be solved only if leading countries work in complementary ways.

For this reason, the Institute's initial focus is the United States and China—the world's largest economies, energy consumers, and carbon emitters. Major economic and environmental challenges can be dealt with more efficiently and effectively if the United States and China work in tandem.

### Our Objectives

Specifically, The Paulson Institute fosters international engagement to achieve three objectives:

- To increase economic activity—including Chinese investment in the United States—that leads to the creation of jobs.
- To support urban growth, including the promotion of better environmental policies.
- To encourage responsible executive leadership and best business practices on issues of international concern.

### Our Programs

The Institute's programs foster engagement among government policymakers, corporate executives, and leading international experts on economics, business, energy, and the environment. We are both a think and “do” tank that facilitates the sharing of real-world experiences and the implementation of practical solutions.

Institute programs and initiatives are focused in five areas: sustainable urbanization, cross-border investment, climate change and air quality, conservation, and economic policy research and outreach. The Institute also provides fellowships for students at the University of Chicago and works with the university to provide a platform for distinguished thinkers from around the world to convey their ideas.

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