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WHO KILLED SAAB AUTOMOBILE?

OBITUARY OF AN AUTOMOTIVE ICON

Matthias Holweg

Judge Business School, University of Cambridge

m.holweg@jbs.cam.ac.uk



UNIVERSITY OF
CAMBRIDGE
Judge Business School

Nick Oliver

University of Edinburgh Business School

nick.oliver@ed.ac.uk



UNIVERSITY OF EDINBURGH
Business School

WHO KILLED SAAB?

EXECUTIVE SUMMARY

- Saab Automobile AB was declared bankrupt on December 19, 2011. This marked the end of 62 years of car production for the iconic brand, which during its final years was beset with financial problems and changes of ownership. More than 3,700 workers lost their jobs when the Trollhättan factory finally closed its doors after producing a total of 4.5 million Saab vehicles over the years. But what was the root cause for the company's demise? Was it preventable? And who was to blame?
- The failure of Saab was ultimately a market-constrained failure. While Saab enjoyed loyal customers and a history of distinctive and innovative products, its operations were subscale and the segment in which Saab operated gave it insufficient room to grow given the strength of its competitors. With production never exceeding 150,000 units per annum, the niche that Saab occupied was too small to sustain its operations at the prices its products were able to command. In its final years, Saab produced the same volumes as Porsche, yet was competing with Audi who not only had almost ten times Saab's volumes but also benefited from well-executed platform-sharing and economies of scale within the Volkswagen Group. In simple terms Saab had the worst of both worlds - Porsche volumes with Audi prices. This was not sustainable.
- Many will claim that Saab's demise is a consequence of brand mismanagement by GM. This is too simplistic. To GM's credit, it supported Saab despite making losses in almost every year of its 20 year ownership of Saab (with the exception of 1994, 1995 and 2001). But GM-Europe's configuration as a very high-volume producer of economy to mid range cars sat uncomfortably with Saab's niche of individualism, technological sophistication and premium positioning. Saab for its part resisted attempts by GM to standardize and cut costs by creating economies of scale through joint models with Opel. Furthermore, Saab shared its market segment with strong competitors such as Audi, who also played on brand values of individualistic understatement and innovative technology - and eventually marginalised Saab to being a low volume producer of not-quite-premium cars.
- A crucial tension between premium auto brands and their more mainstream parents is that synergies need to be found 'underneath the skin' of the vehicle without destroying the uniqueness of the brand. With GM and Saab this tension was not managed effectively and the Saab brand was compromised.

About the authors

Matthias Holweg is Reader in Operations Management and Director of Research at Judge Business School, University of Cambridge, UK.

He also is a visiting researcher at Chalmers University, Sweden.

Nick Oliver is Professor of Management and Head of the University of Edinburgh Business School, Edinburgh, UK.

He is also a fellow at Judge Business School, University of Cambridge.

Contact

For more information or to get in touch with the authors please contact the PR office at the Judge Business School, Cambridge:

Aislinn Ryan

Tel: +44 1223 339 608

or via Email:

press-publicity@jbs.cam.ac.uk

- At the most fundamental level the problems that brought Saab to its knees date much further back: it was a missed opportunity for Saab to be for GM, what Audi became for VW -- a fully integrated brand with a clear, distinct premium image. And here both GM and Saab are to blame: GM for not understanding Saab, and Saab for resisting the integration with GM Europe, which in the long term destroyed its economic basis in a scale-driven automotive industry. However we also acknowledge that the particular attributes of the Saab brand made this a very tricky problem: to be economically viable, Saab had to grow. But if it grew, it would undermine the inherent value of the Saab brand. Essentially Saab fell victim to its own contradictions.
- The final straw was the global financial crisis. Saab's volumes fell from around 125,000 units per annum to just 20,791 units in 2009, and never recovered. Losses were mounting. GM's own bankruptcy in 2009 meant it was forced to cull half of its brands, and came close to disposing of its European core, Opel/Vauxhall. Saab was the weakest part of GM Europe, so it had to be sold or closed.
- When Spyker (later renamed into Swedish Automobile NV, or SWAN) took over in early 2010, the business was scarcely viable. Everything depended on the new 9-5 model and when sales of this failed to take off it took only months for Saab to run out of cash. Suppliers halted deliveries in April 2011 due to lack of payment. From April onwards there were frantic efforts to find an investor for Saab. Candidates included Vladimir Antonov, a Russian financier, Hawtai, a Chinese motor group and Youngman (another Chinese motor manufacturer), Pang da (a Chinese distributor) and an unnamed Chinese bank. For different reasons, all came to nothing, the final nail in the coffin being GM's refusal to allow the technology and know-how in Saab models to go to a competitor to its own partner in the Chinese market. For GM it did not make any commercial sense to allow its technology to go a potential competitor in its second most important market, China.
- Taking a wider perspective, the fundamental economics of the modern automotive industry cannot support individualistic designs at the prices that Saab was able to command. Low volume producers can survive when their customers are ones with very deep pockets. If their customers don't have deep pockets then they at least need to be plentiful in number. Sadly, Saab's customers were neither. The Saab story is reminiscent of the last collapse of a major car company, namely the UK's MG Rover in 2005. Like Saab, Rover found that it was unable to sustain itself following separation from a corporate parent. As with Saab, partnerships with Chinese investors were promised and a deal seemed possible up to the very last minute - but never materialised.
- The story of Saab could soon be repeated. Other smaller premium or niche manufacturers also risk being caught in the unhappy middle between high-volume luxury producers (such as Audi, BMW, Mercedes) that all produce around a million units per annum, and the high-margin/low-volume producers (such as Porsche, Ferrari, Rolls Royce) who recover their costs through high margins. Companies that fall between these camps will find it hard to generate the cash necessary to develop new products, and therefore will ultimately fail. And being part of a larger group is not a guarantor for survival. Many other premium auto brands have been acquired by larger auto groups. but these mergers are often not happy marriages. The key to success of such alliances is not just financial strength, but complementarity between the merging firms. Many alliances have failed on this account, and more may yet do so.

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I/ THE DEATH OF AN AUTOMOTIVE ICON

The final collapse of Saab Automobile in December 2011 marks the unhappy end of a long road for this automotive icon. Saab has a long and proud history as a niche auto producer with a strong brand, and has been a source of technical innovation as well as innovative design to the automotive industry. Over the 62 years it produced cars, it made 4.5 million vehicles, most at its Trollhättan headquarters.

However, contrary to the other vehicle manufacturers in its segment such as Audi, Mercedes-Benz and BMW, Saab failed to grow by offering a wide spectrum of models. As a result, production volumes remained stagnant at around 125,000 units a year. This left Saab dependent on its corporate parent GM (1990-2010) for engineering, for parts and for new product development, which weakened the appeal of the brand. Saab was left vulnerable when the global financial crisis hit in 2008. Production volumes fell from 90,281 units in 2008 to 20,791 in 2009, and never recovered, amidst concerns about the future of the company. Production was halted in April 2011 due to parts shortages, and never properly resumed until the firm finally was declared bankrupt in December 2011.

There will be many opinions on the causes of Saab's failure: manufacturers will point towards insufficient government support during the crisis; workers will point to poor management by GM; and the general public will reminisce about how Swedish manufacturing is a faint shadow of its past glory. Yet what facts stand beneath this rhetoric? What are the causes? Was the failure preventable? Why could even mighty GM not make Saab work? Could the Chinese investment have saved Saab, if only GM had agreed to the rescue plan? Was Saab ultimately too quirky for its own good?

In this report we provide analysis of the underlying reasons for Saab's failure, and set these in the context of the contemporary global automotive industry.

II/ A BRIEF HISTORY OF SAAB

Formation

Saab (Svenska Aeroplan Aktie Bolag) was started in 1937 to produce military aircraft. Its formation was the consequence of a government initiative, a response to the increasing likelihood of war in Europe. The company was started with private capital and built a new factory to the north of Trollhättan, where Saab cars continued to be built up to the company's demise in 2011.

The company initially built a version of the German Junkers Ju-86 medium bomber under licence, adding a light fighter-bomber (the American Northrop B5) soon afterwards. Production of various other aircraft followed.

As the Second World War drew to a close, it was clear that there would be a significant reduction in demand for military production and that other means were necessary to keep the Saab workforce employed. A number of alternative avenues were suggested, including spinning reels and prefabricated sheet steel warehouses, but two were selected for further development – civil aviation and car manufactureⁱ.

Early Car Production

German auto producer DKW had produced a car before the war which had sold well and which provided a model for Saab to follow. Ironically, DKW was later assimilated into what became Audi, one of Saab's strongest competitors. Work began on a front-wheel drive vehicle, powered by a two-stroke engine. Saab applied its expertise in aerodynamics from its aircraft operations to the vehicle, the Saab 92, and in 1949 produced a car with an astonishingly low drag coefficient for the time.

The Saab 92 went through successive evolutionary changes through the 1950s, becoming the Saab 93 at the end of 1955. This evolved into the Saab 95 estate car (in 1959) and the Saab 96 saloon (in 1960). Both remained in production for nearly 20 years with over half a million 96s produced in total. In the early 1960s Saabs driven by Eric Carlsson enjoyed rally success, winning the British RAC rally three times in a row and victories in two Monte Carlo rallies.

Aviation activities continued to expand. The company produced both military and civil aircraft and also moved into combat aircraft systems, avionics and missiles. For a period, Saab even designed and produced mainframe computers. Production facilities expanded, and aircraft production moved from Trollhättan to Linköping in 1960. A new car plant opened at Trollhättan in 1960 with a capacity of 30-40,000 units a year. By the mid 1960s the company employed 11,500 people across eight plants in Sweden.

Technical Developments

The two-stroke engine, one of Saab's hallmarks, was dropped in 1967, to be replaced with a V4 four-stroke engine designed and produced by Ford. Henrik Gustavsson, Saab's Technical Director, defended this decision to source an engine externally:

'As an extremely small automaker in international terms, Saab cannot afford to make mistakes. Therefore it is vital that our product development work be properly directed, and that every modification, every improvement should be fully justified – and preferably of an innovative nature'.

The brand values that were to define Saab cars were already recognizable, the US 'Car and Driver' magazine commenting on the new Saab 99 model that was unveiled in 1967: 'Saab does not make cars – it makes Saabs – models offering a highly distinctive and particularly logical solution to at least one of man's transport problems'. The 99 originally utilized a 1700cc Triumph engine – another example of Saab's need to acquire technology externally – and British-made engines were used in the 99 for a number of years until engine production was established in Sweden. The 99 signalled a clear move upmarket for Saab's cars. Like the 96, the 99 was to have had a long production life, of around 20 years.

In 1968 the Swedish Government ordered 175 Viggen aircraft at a value of \$338 million – a huge amount at the time. This link to fighter aircraft was to feature significantly in the company's advertising for its cars in subsequent years, which drew ego-pleasing parallels between pilots of Saab Viggens and drivers of Saab cars, particularly high-performance turbocharged derivatives.

Merger with Scania

In 1968 Saab announced their intention to merge with Scania-Vabis, a Swedish producer of trucks and diesel engines. The merger took place in 1969. In addition to production facilities in Sweden itself, Scania operated plants in Brazil and the Netherlands. Production of Saab cars expanded into Finland in 1968 with a joint venture with Valmet, a state-owned Finnish company.

By the 1970s, the company was a fully-fledged technology conglomerate with a product division structure, comprising four main divisions: Aerospace, Scania Trucks, Cars and Nordarmatur (who produced valves and pipes).

Like many companies, Saab was hit by the recession that followed the oil shock of the early 1970s, with a slight fall in car production. Some countries had already seen rationalization of their motor industries. In the late 1960s the UK, for example, had seen the creation of the British Leyland Motor Corporation (BLMC), a disastrous amalgamation of several smaller auto producers and a truck maker. BLMC had to be rescued by the UK Government within a few years of its formationⁱⁱⁱ.

Sweden faced similar pressures towards scale and rationalisation and in 1977, the Boards of Volvo and Saab-Scania proposed merger of the two companies, in large part because new model development was prohibitively expensive for small auto producers – hence the very long model cycles of Saab and Volvo cars. However, these merger proposals came to nothing for reasons that included: differences in design philosophy; fears on the part of Saab that its identity would be lost given Volvo's greater size; and concern from both that the other would cannibalize their existing share of the trucks market^{iv}.

Saab Cars in the 1970s and 80s

Saab's car division therefore took a different route to controlling development costs, entering into agreements with Italy's Lancia which resulted in the co-development of the platform on which the Saab 9000 (launched in 1984), the Fiat Croma, the Alfa Romeo 164 and the Lancia Thema were subsequently based. The 9000 symbolised Saab's serious arrival into the European luxury segment. Tellingly, this was only Saab's third all-new model launch in what was by then nearly 40 years of car manufacturing.

1977 saw a major innovation with the introduction of a turbo-charged version of the Saab 99, the first turbo-charged production car in the world. Shortly after this, the Saab 900, a major evolution of the 99 was launched. Turbo-charging was one of Saab's signature attributes during the 1980s and reinforced the Saab brand as innovative and technologically advanced whilst adding 'power' and 'performance' to the mix. This complemented the marque's earlier rallying success. In the world of automotive branding, technological sophistication is a way of saying 'My car is better than yours'^v (or possibly 'I'm more sophisticated than you are') and turbo-charging undoubtedly helped perform this function.

In Germany, Audi was pursuing a similar branding strategy. In the 1980s Audi successfully repositioned itself from being a worthy but dull brand, the kind of car that bank managers drive, to the kind of car that young, aspiring (and relatively wealthy) buyers might want, using technological innovation as the means. Its advertising slogan 'Vorsprung durch Technik' – 'progress through technology – epitomized this'^{vi}. Audi used innovations such as sleek aerodynamics (represented by a TV commercial showing an Audi 100 towing a series of parachutes) and four wheel drive (an attractive woman chasing her hang-gliding man up a mountain in an Audi Quattro to tell him his mother is calling him on his car phone) to

drive home this message. In the space of a few years the average age of an Audi driver in the UK fell from 52 to 38 years^{vii}. The success of Audi's strategy was to spell trouble for Saab in the future.

In 1985, Fortune Magazine observed how Saab avoided the muscle-car image that could easily have accompanied the power and performance of their turbocharged vehicles:

'The Swedish carmaker has more than doubled U.S. sales in six years, to 33,000 last year, by going after what might be called the Big Chill factor: ex-hippies who, now affluent, retain a bothersome social conscience and are somewhat reluctant consumers. The Saab of the Sixties was the automotive equivalent of the Earth Shoe - an oddly shaped, rock-solid car that pattered along on a three-cylinder, two-cycle engine. It's a far plusher and racier car now, but the company wants to keep the same sensible image. So Saab's promotional literature apologizes for the luxury features of the 900 series: "The only reason for making a car this comfortable is that it makes you a better driver." And ads for the new 16-valve intercooled Saab Turbo editorialize, "In any other car, this much power would be irresponsible."^{viii}

In 1987 Saab's production reached 134,000 units – an all time high. This was substantial for Saab but tiny in comparison to companies such as US giants Ford and General Motors or Europe's Volkswagen-Audi Group who even then measured their output in multiple millions of units. Following this peak, sales declined steeply and as the 1980s drew to a close the Cars Division was losing money^{ix}. The cars operation was clearly at risk.

The Divestment of Cars

Throughout Saab's history the influential Wallenberg family, through their investment company Investor AB, had been major shareholders in Saab. Marcus Wallenberg had been on the Board of Saab from 1939 to 1980, and Chairman of the Board from 1968 to 1980, when he retired. Investor AB held, and continues to hold, equity in many major Swedish companies. This concentration of ownership in Swedish enterprises – Investor's holdings accounted for about a third of the Swedish economy in the late 1980s – posed considerable risks, particularly as Sweden seemed on the verge of joining the European Community, which would have meant the elimination of protectionist policies that had shielded Swedish companies from global competition and foreign takeover^x.

Concerned by the threat of hostile foreign takeover of Saab-Scania, Investor increased its stake in the company and took full control. Given the financial difficulties of the Cars Division, the Wallenbergs sought a partner for the cars business and decided to enter a partnership with Fiat. Discussions also took place with Japan's Mazda, but did not proceed.^{xi}

The auto-industry was entering a period of intense merger and acquisition activity. Very small auto companies were struggling with high product development costs, because they lacked the volume to spread these costs over many units. Larger auto companies were seeking to add premium brands to their portfolios; small to medium sized producers were worried about lack of critical mass. In the space of a few years, Alfa Romeo was acquired by Fiat; Lamborghini by Chrysler; Lotus by GM; Aston Martin by Ford and Rover by BMW. The years that followed brought more substantial M&A activity, with mergers between Renault and Nissan, Daimler and Chrysler (later dissolved) and the acquisition of Land Rover and Volvo by Ford (later sold to Tata of India and Geely of China respectively).

In 1989 GM had been negotiating to buy a half share of Jaguar, but lost the deal to Ford, who bought the whole company outright for \$2.6 billion^{xii}. GM then moved in on Saab, ousting Fiat, and paid \$600

million for 50% ownership of Saab, with an option on the other 50%. Under the terms of the agreement GM was to have management responsibility for the joint venture, which was established as Saab Automobile AB.

In 1990, Saab Automobile recorded a loss of US\$848 million in 1990, a loss of US\$9,200 on each car sold^{xiii}.

GM's Ownership (1990-2010)

GM's strategy for Saab comprised a number of elements, covering both products and production. The target output was 250,000 units per year – about double anything Saab had achieved in the past. Ford, meanwhile, was attempting a similar trick with its recently acquired Jaguar. GM also made changes to the production process. In 1990, Saab took around 100 labour hours to produce a car, but this had been cut by nearly 50% by 1992^{xiv}.

A new 900 was developed and launched in 1994, based on GM's Vectra platform. However, a conflict between a need to realise economies of scale in development across GM's portfolio and the need to retain the Saab brand's distinctiveness soon became apparent - a conflict that remained an issue through GM's stewardship of Saab. The Vectra of the 1990s was not well received. For example, the British 'Which?' magazine placed it as one of the least liked vehicles in its class and found it to be 'dogged with reliability problems'^{xv}. The Saab 900 model which shared the Vectra platform was also not well received by the market. 'It handled clumsily, suffered alarming quality lapses and was later reported to have done poorly in Swedish crash testing'^{xvi}. These are problems for any vehicle, but especially for one in the European premium segment, let alone for a brand such as Saab.

Initial sales volumes were encouraging, enabling Saab to post a small profit in 1994, its first since the GM acquisition. However, negative press coverage eventually took its toll on sales of the 900. The company also faced high product development costs (the aging 9000 model had been in production since 1984 with only a facelift in 1991), and Saab was back in the red.

In 1996 GM and Investor agreed to invest US\$524 million into Saab to support a five-year recovery plan, which involved replacement of the 9000 and 900 with two new models. It was also clear that volumes, which had remained below 100,000 per annum, would need to increase, which implied that the company needed a more mainstream image in order to broaden its customer base. Saabs were frequently referred to in the motoring press as 'quirky', and were particularly liked by those in the creative professions, academics and the like. Even by the time GM found a buyer for Saab in 2010, this not-always-positive image had not dissipated:

[The sale of Saab ensures] that sherry-sipping Shakespeare scholars in American faculty lounges can continue to buy their car of choice – at least for a while^{xvii}.

The 9000 replacement, the 9-5, was introduced in 1997 and was also built on a Vectra platform. Like the 1994 Saab 900, this did not help the reputation of the vehicle, with a perception amongst purists that the new models were not 'real' Saabs and lacked the strength and body stiffness of earlier generation Saabs – important attributes of the Saab brand. 'Saabness' was increasingly seen as cosmetic, conveyed by minor details such as the location of the ignition key by the gear stick, the dashboard display and other identity items. The 2003 Saab 9-3 took this further, being designed mainly by GM's European subsidiary Opel and losing the company's distinctive large hatchback design. However, output did increase and was sustained at 120-130,000 units from the late 1990s until 2008,

when it declined sharply. Unfortunately, increased volume did not bring profitability and in 2000 Investor AB exited, selling its 50% stake to GM for \$125 million – a quarter of what GM had paid for its first 50%, 10 years previously.

In 2003 Saab's engineering department was merged with GM's European operations at Russelsheim in Germany. This meant the loss of 1,300 engineers and designers at Saab and effectively signalled the end of Saab's ability to develop its own products (contrary to claims that would be made later by Spyker, who bought Saab from GM). Sales and marketing for Saab in Europe was also integrated into GM's operation in 2004^{xviii}.

It was also clear that there were tensions between Saab and its parent. As the *Economist* was later to observe:

'GM once saw Saab as a potential rival to BMW. But whereas BMWs became the default choice of striving young professionals in the 1990s, buying a Saab was a statement of eccentric individualism—something utterly alien to GM's corporate culture. GM constantly tried to force its often stodgily conventional engineering on Saab in an effort to save money, while Saab, just as stubbornly, attempted to preserve what was different about its cars, such as putting the ignition on the floor by the gearbox. Not surprisingly, the results pleased neither GM's beancounters nor Saab enthusiasts.'^{xix}

BMW was not the only problem for Saab. Other German premium car brands, such as Audi, advanced steadily during the 1990s, eating into the territory that better executed Saab vehicles might otherwise have occupied. Volvo, who had been in a somewhat similar position to Saab, extended its model range and introduced high performance models such as the turbo-charged T5 that played more on 'heart values', enhancing its traditional image of safe-and-solid. The net effect of this was that Saab ended up in the uncomfortable position of making around 120,000 not-quite-premium cars a year.^{xx}

However, in 2005 worse was to come for the credibility of the Saab brand, in the form of the Saab 9-2X and 9-7X, both of which were sold only in the US. Lacking a smaller vehicle and an SUV in the Saab range, GM succumbed to 'badge engineering', that is, the application of one marque's brand to another company's products. The 9-2X was a re-badged and lightly modified Subaru Impreza, produced in Japan. The 9-7X was a Chevrolet Trailblazer built in Ohio and sporting a very un-Saab-like eight cylinder engine. The 9-2X was quickly and disparagingly dubbed a 'Saabaru'.^{xxi}

Crisis at GM

Along with the other US car companies, Ford and Chrysler, GM enjoyed a boom period in the early 2000s, driven largely by buoyant demand for profitable SUVs in the US domestic market. However, long-term issues such as high healthcare and pensions obligations, ailing brands and unreformed working practices remained unresolved, not to mention the continued loss of market share to the Japanese producers (albeit partially concealed by the SUV-induced boom). GM was carrying no fewer than eight brands - Chevrolet, Pontiac, Buick, Cadillac, GMC, Saturn, Hummer and Saab. Some of GM's major shareholders started applying pressure for reform, summarized in a 14-page memo in 2005 which argued that:

'General Motors was in a heap of trouble... but it also had enough cash to mount a turnaround effort. The key would be management's willingness to act urgently by eliminating dozens of near-

duplicate models, dumping unneeded brands, making realistic sales assumptions and negotiating a better union contract.^{xxii}

The memo concluded that GM was likely to run out of cash in 2008 unless action was taken and recommended the disposal of Saab and Hummer. However, it would take the global financial crisis of 2008 to provide the trigger for these (and other) actions, with severe consequences for Saab.

As the financial crisis took hold, many governments were forced to provide support for banks to prevent a collapse of the global financial system. Car sales around the world fell dramatically, exposing the underlying weaknesses of many companies, including GM. In the first quarter of 2008 GM lost \$3.25 billion. Ford, who had acquired Jaguar at about the same time as GM had acquired Saab, sold Jaguar and Land Rover to Tata Motors of India, to be followed within a year by the sale of Volvo to Geely of China. In the second quarter of 2008, GM's loss was even worse than in the first quarter, at \$15.5 billion. In June the company announced a range of measures, including four plant closures in the US. In late 2008, the US government agreed to a \$17.4 billion package of support for Chrysler and GM, subject to them submitting viability plans in February 2009. In December 2008 GM put Saab on 'strategic review'.

The plan submitted by GM in February 2009 proposed the loss of 46,000 jobs (20,000 of which were in the US), the closure of five additional factories, the elimination of the Saab, Hummer and Saturn brands and closure of dealerships in the US. The company said that in the US it would focus on the Chevrolet, Cadillac, Buick and GMC brands. A decision to sell or axe Hummer was to be made by the end of March 2009. Saab was put up for sale immediately, with a deadline for it to be sold by the end of the year or closed.^{xxiii}

However, Saab was only the tip of the iceberg for GM. GM's plan identified a need to make US \$1.2 billion in savings in its European operations. In addition to Saab, Opel plants at Bochum in Germany, and Antwerp in Belgium and Vauxhall at Ellesmere Port in the UK were all at risk. The Chairman of GM's European Employers Forum said:

'The current plan could include for the Opel/Vauxhall brand and the GM/Opel/Vauxhall subsidiaries mass dismissals and probably several plant closures. This would have disastrous consequences for the GM brands and companies in Europe... The spin-off of Opel/Vauxhall and the spin-off of Saab is the only reasonable and feasible option for General Motors which would not destroy the European operations and its European assets. There is no future with GM. We can only see any prospects with a divestment.'^{xxiv}

In the case of Opel-Vauxhall, discussions took place over several months with various respective governments and potential buyers, and included a firm bid from Canada's Magna. However, in November 2009 GM withdrew from negotiations and announced that it intended to retain Opel-Vauxhall.

GM itself entered Chapter 11 (a status which permits for reorganization under the bankruptcy laws of the United States) in the US for four weeks in June and July 2009.

The Search for a Buyer

GM's decision to dump Saab led to a frenzy of activity. The company quickly applied to the Swedish courts for, and was granted, protection from creditors, to give it time to restructure and seek a buyer. However, the business plan submitted to the court as part of this process was seen as overly optimistic.

Saab responded by substantially revising sales projections downwards. Saab's business plan called for the company to sell 65,000 to 70,000 cars in 2009, down from 94,000 in 2008, but from then on sales volumes were forecast to rise to 150,000 units in three to four years.^{xxv}

It was estimated that approximately 15,000 jobs in Sweden in Saab and its suppliers were dependent on the survival of the company, along with those in around 1,000 dealers worldwide^{xxvi}. Any potential new owner for Saab would face the challenge of Saab's debts which in May 2009 were estimated at US\$ 1.2bn to GM, US\$ 42.1 million to the Swedish government and US\$ 80 million to other creditors.^{xxvii}

By mid April 2009, 27 parties had indicated an interest in buying the firm and by May it was reported that 10 parties were 'seriously' interested. By mid May this was down to three, and Saab applied for, and was granted, another three months protection from creditors.

In June 2009, Koenigsegg, a tiny Swedish manufacturer of sports cars, was confirmed as a bidder for Saab, backed by a consortium of Norwegian investors with unspecified support from a Chinese backer, variously reported to be the First Auto Works and Beijing Automotive Industry Holdings (BAIC). A loan from the European Investment Bank, backed by the Swedish government, formed part of the deal.

In November 2009 Koenigsegg withdrew from the deal and Saab was left without a buyer and facing imminent closure.

Almost immediately, Dutch sports car maker Spyker appeared on the scene. Spyker CEO Victor Muller, a 50 year old Dutch businessman, started the process with a simple email to GM director Bob Lutz. Muller later recounted:

'Eight minutes later, I got a reply and next thing we know we're on a rollercoaster ride that will take 93 days, working 20-hours a day.'^{xxviii}

The two companies were a world apart. Saab was capable of making in excess of 100,000 vehicles a year. Spyker had produced just 43 in the previous year. Muller comments:

'I had no idea. Not a clue what it would entail. I only knew Saab was for sale, and GM was threatening to shut it down. I didn't know how much money it would cost, or what the business model was like – I was an outsider. But I thought it was obscene that this brand might go down.'^{xxix}

As the saga moved into December, GM announced their intention to wind down Saab – somewhat ironically, as a new 9-5 model was now virtually ready for launch. However, last-ditch efforts to broker a deal with Spyker continued. BAIC were still on the scene, but only as a buyer of tooling of the outgoing 9-5 model.

In January 2010 the CEO and entire Board of Saab were replaced with two 'wind-down' supervisors, labelled as 'executioners' in at least one news report^{xxx}.

Spyker

The roller-coaster of speculation continued throughout January 2010. Speculation alternated with a sense of resignation about the future of the company. Then, on 26 January, it was announced that the sale of Saab to Spyker had been agreed. Under the agreement Spyker agreed to buy Saab from GM for US\$74 million in cash and US\$326 million in preferred shares. The new company was to be called

Saab Spyker Automobiles. Saab's supporters were jubilant. IHS Global Insight analyst Tim Urquhart commented:

[Saab] is a really brilliant brand. It's probably one of the biggest brand mismanagement stories in the history of the automotive industry. Saab could have been the 'Swedish Audi' if it had been taken on in the right way 20 years ago. It's been completely mismanaged, underinvested in by people who don't understand what the brand means, and what it has the potential to mean.'

In a comment that captured the contradictory pressures between, on the one hand, huge loyalty and enthusiasm for the brand amongst the Saab faithful and on the other, a tough competitive environment, Edmunds.com analyst Michelle Krebs observed:

'While many around the globe, especially in Sweden, will be thrilled to see the quirky but much-loved Saab brand saved, the new owners have their work cut out for them. It will not be an easy road to keep the tiny company going and growing in the intensely competitive world market.'^{xxxix}

Saab had been thrown a life-line, but the issues that had led to its difficulties - such as subscale production volumes - remained. However, a brand new model, the new 9-5, was ready for launch – could this be the model to revive the company's fortunes?

What was Spyker starting with in January 2010? There were two models on the books – the Saab 9-3, which was already seven years old, but scheduled for replacement in 2012. There was the outgoing Saab 9-5, a 12 year old model, that was at the end of its production life, but about to be replaced later that year by the all-new 9-5, developed by GM on the Insignia platform. In the pipeline was a Saab-badged sport utility vehicle, the 9-4X, which shared a platform with the Cadillac SR-X, to be produced in Mexico by GM for Saab.

SPYKER'S PLANS

Spyker and Saab were to operate as two separate companies. The new company declared its intention to position Saab as an 'independent performance-oriented niche car company with an industry-leading environmental strategy....Saab's brand DNA is unique and rooted in its aeronautical heritage, innovative and independent thinking and its Swedish origins.'^{xxxix}

The theme of restoring Saab's brand and DNA recurred repeatedly: At the final signing of the deal in February 2010, Victor Muller declared:

'We need to give our customers the clear message, that Saabs will be Saabs again. The company has lost its DNA over the past years and that has caused its customers to turn its back on it....We are not looking for new customers, we're just looking for getting our own customers back.'^{xxxix}

Saab's new owner planned to restore Saab's production and sales volumes to pre-crisis levels of 100,000-125,000 vehicles per year, including the 9-4X to be produced in Mexico. Given that many of Saab's functions were integrated with those of GM, there was a significant amount of unpicking to do, particularly with respect to sales and marketing. The Spyker plan also involved establishing new sales and distribution channels in markets where Saab had not historically been strong.

Spyker claimed that Trollhättan had the full capability to develop complete vehicles and would continue to do so, but this seems improbable, given the design and engineering downsizing reported to have taken place in 2003^{xxxix} and the substantial contribution of GM to Saab's new models. Indeed, it was the

very scale of GM's engineering contribution that was seen as the reason for Saab's loss of distinctiveness.

There was to be continuing collaboration with GM on parts sourcing, but with dependency on GM gradually reducing over time.

The January 2010 business plan envisaged a maximum need for cash of US\$1 billion before Saab returned to profitability, which was forecast for 2012. This was to be made up from various sources, including:

- GM, through \$326m redeemable preference shares
- Favourable terms for parts and services from GM to Saab, plus deferred payments
- €400million (US\$544 million) loan from the European Investment Bank, backed by the Swedish Government, mainly for R&D projects at Saab^{xxxv}.

CRUNCH TIME: THE NEW 9-5

On paper, it looked as if Saab had a chance, albeit a long shot. There was a brand new model ready for launch. There was financing from a number of sources to cover the estimated US\$ 1 billion required before sales and production volumes built up to break-even levels. There were extraordinary levels of goodwill towards the brand.

However, the obstacles to be overcome were daunting. The Trollhättan plant, which had ceased production as part of the GM wind-down had to be restarted; the battered brand had to support a huge, scarcely plausible, upswing in production and sales from 2008 and 2009 levels; customer confidence in the company had to be restored; and activities that were integrated with GM had to be unpicked and re-established on a free-standing basis.

More or less everything was going to hinge on how the new 9-5 was received. Although the model would be launched by a newly independent Saab, it had been designed and conceived under GM's stewardship, something which of course many commentators blamed for the erosion of Saab's distinct identity. The company might be independent, but the products would bear the legacy of GM for many years. Also crucial was the company's ability to rebuild its distribution network outside of GM.

In March 2010 the company declared a sales goal of 50-60,000 units in 2010 (of which 20,000 were expected to be new 9-5s^{xxxvi}), 70-80,000 in 2011 and 100,000 in 2012. Historically, Saab's sales had been heavily concentrated in just three markets – its home market of Sweden and the US and UK, which accounted for 60% of its sales. Finding and penetrating new markets was clearly essential^{xxxvii}.

At the 2010 Geneva Motor Show in March, Muller shared ideas for Saab's future product portfolio with an enthusiasm that clearly infected some of the motoring journalists present. One of these ideas was for a smaller retro-style vehicle based on the old Saab 96, hoping to reproduce the success that BMW had enjoyed with the Mini One and Fiat with the new 500. Muller enthused:

'Where can you find an iconic design like [the 96] which hasn't been put back into production in a modern way? I think we can easily sell 30-50,000 a year'.

Muller thought that the BMW Mini provided a glimpse of what was possible:

'They sell twice as many as they thought they would. They sold 230,000 last year – how well does the Mini contribute to the bottom line of BMW?'

Within three months, Muller was claiming that the company was close to finding a partner with whom to co-develop the 9-2^{xxxviii}. On 22 March 2010 the production lines at the Trollhättan Plant started rolling again after several weeks' cessation. The first car off the line was the new 9-5 model. In May the company proceeded to purchase Saab's three sales companies (UK, US and Sweden) from GM^{xxxix}.

In June 2010, Muller reported that Saab had used US\$165 million of its US\$544 million loan from the EIB. He emphasized the importance of strategic alliances with other car makers for new product development, and was upbeat about the prospects for this – with all car companies under pressure, technology sharing, he argued, was an effective method of bringing break-even points down^{xl}. In July 2010, the company made a final cash payment of US\$24 million to General Motors, thereby completing the sale.

June also saw the launch of the new Saab 9-5. The success of this model was going to be absolutely crucial to the turnaround of the company as it was this that would generate the cash to propel the company forward. The car received a positive, but somewhat lukewarm reception from the motoring press:

'As good as the German rivals? The Saab is certainly a lot more interesting and, to my eyes, rather better looking. I also like the idea of supporting the underdog at this vital time. (Don't worry, the dealer chain is fully intact.) Given a choice of an A6, a 5-series, an E-class or a Saab 9-5, I'd take the Saab and enjoy the difference'^{xli}.

'Is the new 9-5 going to rip up the rulebook? Hardly. Saab has a mountain to climb to persuade buyers to take it seriously again. They should. This is the best resolved big Saab ever, but many customers will be wary after the bankruptcy and may well be perfectly happy with their A6s, 5-series and E-classes'.^{xlii}

'The 9-5 has plenty of notable qualities. All it really lacks is a distinctive style. It wears the insignia of Saab well enough to suggest that it could establish itself alongside the BMWs and Audis. But what it hasn't quite shaken off is the Insignia of Vauxhall'.^{xliii}

In August 2010, the company appointed a new importer for Japan, PCI, who took over the task of marketing, Sales and distribution in Japan from GM Japan.^{xliv} Saab also pushed into South America, seeking new importers for Mexico, Brazil and Argentina.^{xlv}

Worryingly, given the recent launch of the new 9-5, the earlier production estimate of 50-60,000 units was scaled back to 45,000 units. However, combined sales in Saab's three major markets were running at under 3,000 units a month, suggesting that even this estimate was optimistic^{xlvi}. September brought news of an agreement with BMW to supply engines. Details were scarce, but the arrangement pertained to a 1.6 turbo charged petrol engine, with supply to start from 2012.^{xlvii}

WARNING SIGNS

More warning signs appeared in late October 2010, with a second downgrading of production forecasts, this time to 30-35,000 units, which sent the value of Spyker's shares tumbling. This forecast was more in line with actual monthly sales, but only about half the forecast of six months before. It was beginning to look as if the Saab 9-5, the car on which the company's future depended, was not achieving the necessary sales volumes. Saab cited issues due to recovery from the plant shutdown down earlier in the year and delays with suppliers as reasons for this:

'You will not sell product that's not on the showroom floor. It's been a tremendous fight to fill the pipeline. This is now finally starting to happen.'^{xlviii}

In early January 2011, the confirmed sales and production figures for 2010 were released. In 2010 Saab had produced just 32,048 cars. This was little more than half of what had been forecast at the start of the year, although it was an improvement on 2009 when just over 20,000 units had been produced. Victor Muller explained the figures thus:

'One of the largest challenges in 2010 was to restock our dealers around the world to normal levels again, especially in a market like the United States, where you need dealer stock in order to be able to sell cars. For instance, when we acquired the company in February 2010, there were a mere 500 cars left on the ground in the United States. Normal inventory levels in this market should be at 6,000-7,000 units.'

'In 2009, Saab Automobile sold 39,800 cars, but built only 21,000. As a result, inventory levels were depleted by almost 19,000 units. In 2010, we only filled the pipeline with less than 4,000 units. All in all, with all the accomplishments made so far, I am very confident that the foundations for delivering on our business plan are in place.'^{xlix}

This explanation sat uncomfortably with an announcement that came less than a week later, namely that Saab was reducing output from 39 cars per hour to 28 per hour as part of a normal 'winter slowdown'. The union representative for IF Metall, Håkan Skött, pointed out on Swedish local radio that 28 cars an hour was insufficient for Saab to meet its 2011 output target of 80,000 cars^l.

LIQUIDITY CRISIS

In February 2011 the first 9-4X came off the assembly line in Mexico, for the planned launch in the US in May 2011. Sales of the 9-4X in Europe and the rest of the world were due to follow in August 2011. But by late February there were more signs that things were going awry, with an announcement that Spyker was to sell its original sports car business to Russian investor Vladimir Antonov for US\$12 million in order to raise cash to support Saab's operation.^{li}

At the end of March, Saab's President and CEO Jan Åke Jonsson, widely known for his perennial 'Saabtimism', unexpectedly^{lii} announced his retirement. Jonsson had been with Saab for 40 years, and had been at its head for nearly six years. Victor Muller took on both roles, ostensibly until a successor could be found. New distribution deals for Saab in Russia and China were also announced.

On 29 March Saab was forced to stop production due to a dispute with a supplier, International Automotive Components (IAC) over payments for parts supplied^{liii}. Production re-started, but stopped twice more in the following week. The Swedish National Debt Office also sought assurances from Muller regarding its guarantees for the EIB loan. Rather bizarrely, given the company's situation, Muller commented:

'I have compared Saab often to a beautiful lion who grew up in captivity One day that lion is loaded on to a truck and released in the vast savannahs of Africa. That mighty animal has to learn how to hunt for its own prey and support himself. Being used to receiving his meals in a stainless bowl, that lion has some serious challenges adapting to his new-found freedom.'^{liv}

In early April Muller was making reassuring noises about Saab's finances, a position that elicited the headline 'Rent Skitsnack' ('Bullshit') from *Dagens Industri*, a major Swedish newspaper. By mid April an

increasing number of suppliers had stopped deliveries to Saab. On 7 April production stopped, with no date given for a re-start.

Saab was now facing chronic liquidity problems and embarked on an increasingly desperate set of measures to raise cash. Vladimir Antonov, the purchaser of the Spyker Sports car business (who in 2009 had been refused permission to invest in Saab amidst unsubstantiated rumours on involvement in money laundering and organized crime^{lv}) re-iterated his desire to take up to a 30% stake in the company. Saab also entered into discussions to sell its Trollhättan properties, which since have been partly sold and leased back.

DESPERATION: THE SEARCH FOR PARTNERS

The situation was becoming increasingly desperate and was showing signs of spiralling out of control. Anders Borg, the Swedish Finance Minister, went on Swedish TV arguing that more clarity was needed about Saab's control structures. Lars Holmqvist, the CEO of the European Association of Automotive Suppliers commented:

'With a very unclear ownership structure and no financial muscle, it seems [Saab] are into a very negative spiral. The reason they are stopping is they have not paid their bills and will not get components. They are not selling cars and are making very big losses...

'...If it is right what is being reported, it means Antonov would go in immediately with SEK270m (US\$43.2m) - that is not [enough] even to cover the debt owing to the suppliers... It would not even help starting. It could release some components, but that is of course not [the] major problem.'^{lvi}

The 'unclear control structure' with which Saab now found itself was causing problems. The EIB, the Swedish state (as guarantor of the loan) and GM all had a stake in any outcome, and their approval was necessary for the sale of facilities and fresh investment by Antonov. Late April brought approval of Antonov as an investor from the Swedish national Debt office, but the position of the other stakeholders on this was not clear.

On 3 May there was another twist – Saab announced it had signed a US\$223 million deal with China's Hawtai to produce and sell Saab cars in China. This too would require approval from Saab's multiple stakeholders and by the end of the first week of May fingers were being pointed at the EIB for holding up approval of Antonov and Hawtai as investors. It was to be only days before the goal posts moved again on 12 May as Hawtai apparently failed to get the necessary regulatory approvals in China.

Muller was out in China, seeking another partner and within four days came an announcement – a memorandum of understanding (MoU) had been signed with Pang Da Automobile Trade company, China's largest public auto distributor, with 1,100 dealerships worldwide. Under the agreement Pang Da was to make a €30 million payment for (yet-to-be-produced) Saab cars with another €15 million for more within 30 days^{lvii}. The agreement also made provision for a joint venture operation to manufacture Saabs in China, with a manufacturing partner to be identified and appointed. The purchase of the cars themselves did not require government approval, but a joint venture for a manufacturing operation did. Obtaining such approval can be problematic as the Chinese government is working to rationalize its auto industry in order to avoid fragmentation and to ensure a limited number of high-volume, globally competitive car companies.

The news of the Pang Da deal and the modest liquidity it injected into Saab was sufficient to briefly restart vehicle production at Saab on 27 May. By 8 June the line stopped again, due to supply issues.

On 13 June it was announced that a Chinese manufacturing partner, the third leg of the stool along with Saab and Pang Da, had been identified and that a Memorandum of Understanding had been signed with Zhejiang Youngman Lotus Automobile. Under this agreement, Youngman would produce Saab cars in China – subject to various approvals. Most observers assumed that the main hurdle would be Chinese regulatory approval, but as the saga dragged on, the significance of GM in approving the sale of Saab would become very clear.

Problems continued to snowball for Saab. Production remained stopped. There were delays in the payment of salaries to Saab staff in June and July, and at the end of July the EIB refused to approve Antonov as an investor in Saab. (Antonov was subsequently arrested and questioned over allegations of fraud.^{lviii})

All went quiet with Pang Da and Youngman during August 2011, although in early September Youngman expressed confidence that regulatory approval for the proposed arrangements would be forthcoming.

In early September Saab employees had still not been paid for August. On 7 September Saab filed for bankruptcy protection, requesting time to embark on a voluntary re-organization. The company stated:

'Following court approval, the voluntary reorganisation will be executed over an initial period of three months. If required, the reorganisation period can be extended by another three months, up to a maximum of twelve months. Swan and Saab Automobile are confident that they will secure additional short-term funding for the reorganization period and are currently in negotiations with several parties about obtaining such funding.'

Funding for Saab Automobile to exit reorganisation has been secured through binding agreements with Pang Da and Youngman as announced on 4 July, which agreements are, however, subject to obtaining certain approvals.^{lix}

On 8 September this request was denied by the Vänersborg district court on the grounds of insufficient evidence that a successful restructuring was feasible. At this point it looked as if this was the end of the road for Saab. Far from giving up, Victor Muller proclaimed 'We are not dead yet' and appealed against the court decision to refuse the reconstruction of Saab on September 8, arguing that there was 'money on the horizon waiting to come into the country'^{lix}. This marked the starting point of a three-month long roller coaster ride for Saab and its employees.

Although Muller had been insisting that there was 'cash to pay salaries', on September 10 he made a U-turn, admitting that Saab was unable to pay outstanding salaries. On September 12, Unionen, and Ledarna, a white collar union, filed a request to force troubled automaker Saab into bankruptcy, which would enable them to protect some of their lost earnings. A third union, IF Metall, followed suit on September 21. Even though their salaries were on the line, many union members were unhappy about sending Saab into bankruptcy and this move was clearly undertaken reluctantly.

In the meantime, Victor Muller launched a press campaign stating that 'Swedish Automobile N.V. (Swan) [...] entered into a memorandum of understanding with Pang Da and Youngman for the sale and purchase of 100% of the shares of Saab Automobile AB (Saab Automobile) and Saab Great Britain Ltd. (Saab GB).' Given this announcement and the prospect of a bridging loan, on 21 September the Appeals Court upheld Saab's appeal on. This reversed the District Court's ruling of 8 September, giving Saab time to restructure and allowing the State to cover employee salaries until 21 October.

Early October brought a flurry of rumours that Geely, the Chinese owner of Volvo, had an interest in acquiring Saab, but these were quickly denied.

During October, negotiations with Youngman and Pang Da, but by October 20 the deal had apparently collapsed and only a small portion of a promised bridging funding had been transferred to Saab. The court-appointed administrator, Guy Lofalk, filed a petition to abandon the reorganisation of Saab, arguing that there was insufficient cash to complete the reorganization and suggesting that one solution was to let the Chinese companies buy the company outright. Pang-Da and Youngman did indeed offer to buy Saab outright for US\$ 30.4 million (200 million SEK). In an interview with Reuters, Muller responded:

'The token offer was unacceptable because it would trigger every conceivable change-of-control clause and that would possibly mean the end of Saab.'

At the time, some commentators accused Muller of risking the future of Saab by trying to retain too much personal control, but with hindsight it seems more likely that this reflected concern over GM's position over complete Chinese ownership. For some days, it looked as if any deal with Youngman and Pang Da was off.

Then, on October 28, a deal whereby SWAN sold Saab to Pang Da and Youngman for US\$ 134 million (€100 million) was announced. Under the deal (which was actually only ever a memorandum of understanding) the two Chinese companies pledged to inject US\$855 million into Saab in a bid to revitalize the company. For some days, the headlines proclaimed that Saab had been saved. Ambitious projections of output (eg 35-55,000 cars in 2012, 75-85,000 in 2013 and a long term projection of 185-205,000 units) were made. Lofalk's application for Saab to exit reorganization protection was withdrawn. On 28 October, Victor Muller declared:

'After the better part of seven months of agony for the company, we have come to a point where we can proudly say that we made it'

'I have had no life in the past two years... My job was to save the company. I think I achieved it,' he said, adding that he felt great relief about the deal.'

'We can be comfortable that the business plan that the company had made will now be executed and that the funding will be provided.'

Muller estimated that the deal would mean that he had personally lost about US\$100 million (70 million Euro) on Saab, a figure which he later contradicted in his final press conference on December 19, claiming a personal loss of 13 million Euro. (Neither figure could be verified by the authors.)

The jubilation turned out to be short-lived. By 4 November, there were indications from GM that they would not approve the sale. The Pang Da-Youngman acquisition required approval from several parties, most notably GM, Chinese authorities, the European Investment Bank and the Swedish Debt Office.

On November 8, GM issued a statement that the proposed deal would harm its interests in China, and that it could not support it:

'GM would not be able to support a change in the ownership of Saab which could negatively impact GM's existing relationships in China or otherwise adversely affect GM's interests worldwide'.

Commenting on GM's rejection, Muller remained bullish, saying 'There is always Plan B.' However, even he seemed to be losing faith: In an interview from November 30, he stated:

'But right now I do not understand on the other hand why the Chinese continue to pump money into the company. As the situation is, it means that they put their money into a black hole, without getting anything back.'

He added: 'Should I slumber for a moment, SAAB would disappear in a heartbeat.'^{lxi}

At the heart of GM's objection to the sale of Saab was their joint venture with Shanghai Automotive Industry Association (SAIC), China's largest carmaker. A significant amount of GM technology and know-how embedded in Saab vehicles also goes into SAIC products. SAIC's unhappiness about the purchase of Saab by two other Chinese companies was widely reported in the Chinese media.

To try to get round this, Muller tried to bring in a Chinese bank, thereby only 'selling' 49.9% of Saab to Youngman and Pang Da. However, on December 8 GM stated it would not support a proposed ownership structure for Saab that included a Chinese bank^{lxii}:

'We have reviewed Saab's proposed changes regarding the sale of the company. Nothing in the proposal changes GM's position. We are unable to support the transaction.'^{lxiii}

This prompted Lofalk to submit an application to the Vänersborg district court to the court reinstate the bankruptcy, arguing that:

'[...] we are at the end of the road. We would have been happy if we would have had an option, but it is purely mathematical, we're out of money.'^{lxiv}

In response, Victor Muller was quoted on Swedish TV criticising Lofalk for being 'incompetent to handle SAAB as a company, the partners involved in SAAB and the complex process'.^{lxv}

As the end approached, it was clear that Muller's attempts to get round GM's opposition to the deal were not working. On 18 December a GM spokesman stated:

'Saab's various new alternative proposals are not meaningfully different from what was originally proposed to General Motors and rejected. Each proposal results either directly or indirectly in the transfer of control and/or ownership of the company in a manner that would be detrimental to GM and its shareholders. As such, GM cannot support any of these proposed alternatives.'

On December 19, Saab itself petitioned for bankruptcy, closing the curtain on a seven-month drama that finally ended with Saab Automobile AB declared bankrupt. Victor Muller opened the press conference to announce this saying:

'This is the darkest day in my career, probably in the history of Saab. But we had no other alternatives'.

A hearing is scheduled for April 2012, at which Saab's assets will be assessed. In the meantime, bankruptcy proceedings will commence for the three parts of the business, namely Saab Automobile, Saab Automobile Powertrain and Saab Automobile Tools.

III/ ANALYSIS: WHAT WENT WRONG?

The collapse of Saab raises many questions about why the demise occurred and whether it was preventable. In this section we will offer our perspective on the following questions:

1. Was Saab's demise inevitable?
2. Was GM the right partner?
3. A strong brand but a weak business?
4. Did Spyker really have a chance?
5. Could China have saved Saab?
6. What similarities are there between Saab's collapse and the last collapse of a major auto firm, namely Rover in 2005?

Was Saab's Demise Inevitable?

There is considerable overcapacity in the automotive industry, in the order of 30% globally. This has been a long-term problem for the industry and means that even though global sales have been rising, there is fierce competition. Developing countries often see an indigenous automotive industry as a symbol of and force for economic development. This creates pressures for new capacity to be added at the same time as mature economies are reluctant to relish their auto industries due to the social and economic consequences. Car manufacturers thus have to define their competitive positions and carve out niches that are large enough not only to support current operations, but also to generate the very substantial financial resources needed to develop new vehicles that are competitive in terms of cost, quality and performance. The development cost for a new model, on a stand-alone platform, is currently in the order of \$1bn.

Although having a very loyal band of customers, in comparison to its direct competitors such as Audi and BMW, Saab was unable to achieve economies of scale. Thus, a major contribution to Saab's failure came from strong competitors who not only constrained Saab's ability to grow but actually ate away at Saab's niche market.

Our analysis suggests that three factors combined to seal Saab's fate:

- 1/ Saab was positioned in a niche market, which by definition meant that it would always find it difficult to sell large volumes of vehicles. Herein lies a conundrum for any brand that emphasizes difference from the mainstream as part of its brand values. Too different from the mainstream and there will be insufficient buyers; not different enough and there will be an insufficient price premium to compensate for the lower volumes. This was one of Saab's fundamental problems. Tight competition in the luxury segment meant that Saab could not command high margins on its sales, which put the firm at a continued disadvantage against its larger competitors who are able to offset their development cost across more many more units. Saab was caught in the 'unhappy middle' between low-volume and high-margin producers further upmarket, and higher-volume lower-margin producers adjacent to it. This position was not sustainable.
- 2/ For most of its life Saab only offered two products, although it sold some re-badged models from GM and Subaru that accounted for very few sales in the last few years of its life. From the mid to

late 1990s it had only the 9-3 and 9-5, both of which were in market segments that were not growing^{lxvi}. Saab lacked products in those segments that have seen considerable growth in the last decade or so, namely SUVs, MPVs, and more recently, cross-over vehicles. Thus, to assume that the new 9-5 could save the company represented a stretch of imagination, at best.

3/ The economics of the automotive industry rely on scale. Major opportunities for cost control lie in (a) sharing platforms, engines and components across different models in company's product portfolio, or (b) with other marques in a group, or even (c) with other car companies. Saab had a history of (c) for example buying engines from Ford and Triumph and jointly developing a platform with Fiat and Lancia, apparently without damage to its brand. Yet it struggled as part of GM, suffering erosion of its brand at the same time as never being fully integrated with GM, despite sharing the first the Vectra platforms and later the Epsilon platform with Opel/Vauxhall models.

Together, these three factors meant that Saab was in a very vulnerable position when the global financial crisis hit in 2008.

The problem of being too small has been a perennial issue for Saab. Even before the catastrophic decline in volumes from 2008 onwards, Saab's direct competitors (Audi and BMW) are both are about ten times Saab's size by volume.

The chart below shows Saab's production volumes since 2000. The total annual volume never exceeded 140,000 units, split across the two models. Saab's total volume across its two models was only about equal to the average sales per single model for other Western Europe producers^{lxvii}.

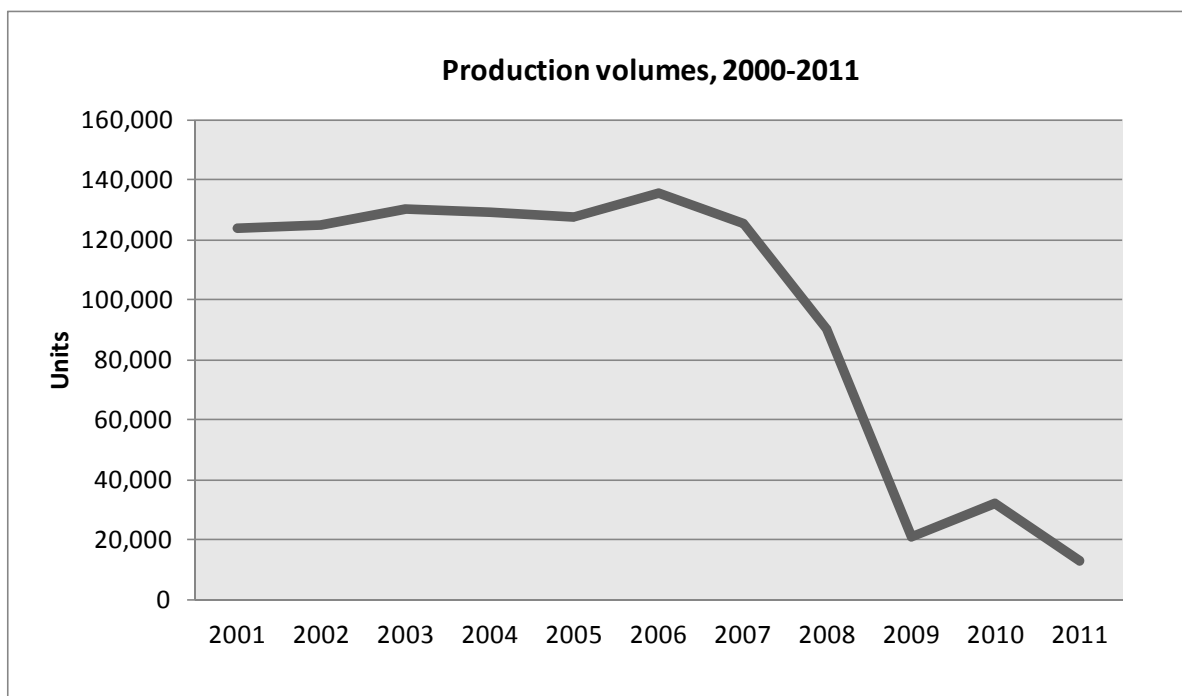


FIGURE 1: SAAB PRODUCTION VOLUMES, 2000-2011. SOURCE: WARD'S AUTOMOTIVE

The automotive industry typically suffers earlier and deeper recessions than other sectors^{lxviii}, as customers can usually postpone the purchase of cars in the face of financial uncertainty. This particularly hurts financially marginal companies, who may already face relatively weak demand and

who lack a substantial financial buffer to ride out the storm. So it was with Saab who saw an 80% drop in demand, from which it has never recovered.

This loss in volume had obvious financial consequences, as the next chart shows. Yet even prior to the financial crisis Saab was largely loss-making, returning a small profit in only three of the 20 years that GM owned it (1994, 1995, and 2001).

The increase in revenue in 2009 resulted from selling equipment for the older generation 9-3 and 9-5 models to BAIC for US\$197 million, and so does not represent an improved trading position. The company also de-stocked significantly, selling around 10,000 more cars than it made in this year.

In 2011, matters took a turn for the worse: the first six months to June saw losses rise nearly ten-fold to €201.5 million (\$289 million) from €21.9 million for the same period in 2010. By this point Saab had run up short-term debt of the same value as its entire 2010 sales revenues.

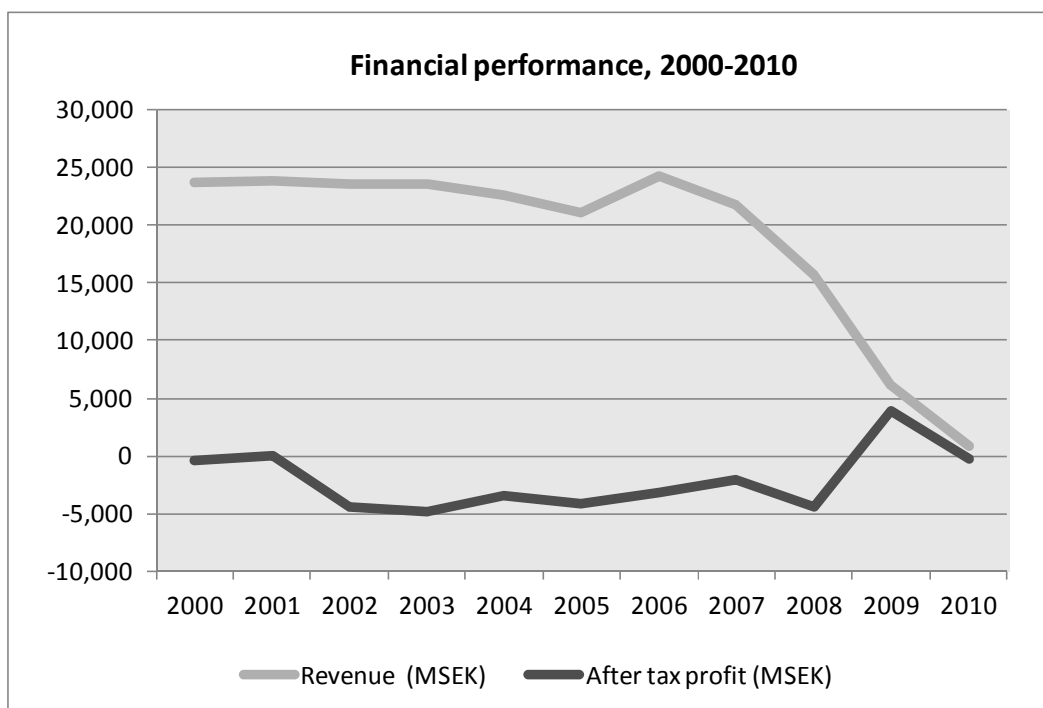


FIGURE 2: SAAB'S FINANCIAL PERFORMANCE. SOURCE: ANNUAL REPORTS

Most company failures involve poor management decisions at certain points in the company's history, although the quality or otherwise of such decisions may only be apparent with hindsight. Such decisions may result in poor allocation of resources, missed market opportunities, or failure to promote and sustain the brand and image of the company, thereby threatening the success of the firm in the market. Was Saab's failure a function of poor management?

To answer this question one has to understand the economies of scale that underpin the auto industry. While it was common up to the 1990s to develop and build stand-alone models (i.e. each model had its own 'platform' and body, and sometimes also powertrain) this changed, most significantly in the mid-1990s, with increased use of common of components and platform sharing across models.

To quantify this development, in 1990 in Western Europe the average production volume per body style was 129,000 units per annum. At that time there were about 60 different platforms in use across all European manufacturers. By the mid-2000s this had fallen to only 46 platforms, each of which saw an average volume of 269,000 units per annum. At the same time, the production volume by bodystyle dropped to 69,000 units annually, a decline of almost half.^{lxix} Put simply, companies were squeezing more variants of vehicle in the marketplace from far fewer underlying fundamentals. This meant that firms that were unable to spread their development costs across several models based on the same platforms now essentially had to recover these costs from only half the sales volume.

This was a fundamental shift in the economic foundation of the auto industry. It was no longer necessary to achieve scale by producing many, perhaps hundreds of thousands, of copies of one single design (ie model), but by producing a wide variety of models on a handful of shared platforms.

This trend favoured larger manufacturers with wide portfolios of models who enjoyed good market coverage but who also could share development costs across these models. The VW Group is a good example of this, at one time building no fewer than seven models across four brands on a single platform, namely its A04 (Golf) platform^{lxx}). This situation favours auto groups with integrated product development operations who enjoy much better economies of scale, which in turn lowers their cost base, leaving more resources for product development.

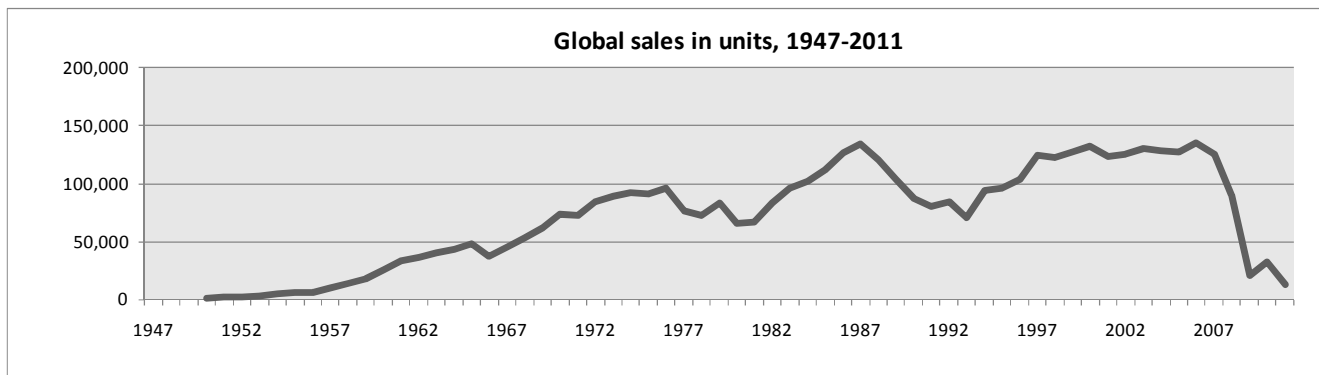


FIGURE 3: SAAB'S GLOBAL SALES, 1947-2011. SOURCE: WARD'S AUTOMOTIVE, SAAB ANNUAL REPORTS.

Faced with this situation, it is not clear that Saab's management had a great deal of room for manoeuvre. Achieving scale through organic growth (as BMW did) was never on the cards, and without this decisions came down to choices of partners or owners, the route taken by companies such as Jaguar, Land Rover and Volvo. Here the tie-up GM clearly failed to deliver the goods for Saab.

Caught in the dilemma between integrating with GM products in order to secure cost savings and retaining its own brand and uniqueness by remaining differentiated from GM, Saab struggled to realize the advantages of platform sharing with its parent whilst maintaining its own brand identity. Even as part of GM, Saab never managed to surpass 150,000 units per annum (see chart above). Audi and BMW, in comparison, have each exceeded 1,000,000 units per year.

Was GM the right partner?

GM was Saab's owner, in whole or in part, for almost 20 years. So why could GM not make it work? After all, as the largest car manufacturer in the world for most of that time GM had both the financial resources and knowledge necessary for success in the automotive industry. Was GM the real culprit in Saab's demise?

Many observers have argued Saab's decline was a consequence of brand mismanagement by GM. Our view is that this is too simplistic. To GM's credit, it supported Saab, despite Saab's losses, in almost every year of its 20 year ownership of Saab (with the exception of 1994, 1995 and 2001). But GM's configuration in Europe as a very high-volume producer of economy to mid-range cars sat uncomfortably with Saab's niche of individualism, technological sophistication and premium positioning. Saab for its part resisted necessary attempts by GM to standardize and cut costs by sharing technology with its Opel and Vauxhall models.

So although GM has been accused of failing to understand Saab's brand it had little choice but to try to integrate Saab into GM Europe. Saab however felt that GM's interference was counter-productive to its success, and stubbornly resisted attempts to move it towards such integration. There was palpable friction because these two firms were simply very different.

Critical to the success of an alliance or merger between two car companies is the scope for synergy by pooling resources, sharing knowledge, and economies of scale. In the absence of these, there can be little hope of long term success. More likely than not, the weaker partner, usually the acquired firm, will keep losing money, and eventually the parent will discard the loss-making subsidiary. This happened with GM and Saab, BMW and Rover and Ford and Jaguar-Land Rover.

A key element in successful automotive mergers is 'complementarity', that is, where both firms gain something from the partnership. This can come in many forms: access to technology, access to capital for investment, lower cost by sharing platforms and components, but also non-production synergies, such as access to new markets.

The Volkswagen Group is an example of a firm that has executed this strategy very well. Within the Group there is extensive sharing of platforms, powertrains and parts across brands in the Group (Audi, Seat, Skoda and VW) whilst allowing each brand an identity appropriate to its particular market. This creates economies of scale and means that lower volume models can be offered at a profit (or to put it another way, that diversity of models can be offered without a major cost penalty).

A less obvious example is Renault-Nissan. In 1999 Nissan was burdened with debt and almost bankrupt and merged with Renault. At first glance, these two firms had little in common and at the time analysts were sceptical that the merger would work out. As it has turned out Renault and Nissan had strongly complementary capabilities, market presence and compatible product architecture, as shown in the table below. Being different in some respects but compatible in others is clearly important (see Table 1 for an overview).

An example of a failed merger is the DaimlerChrysler tie-up, which lasted from 1998-2007. Here both firms had rather similar regional coverage, both having a strong presence in the US, both being weak in emerging markets. They employed very different product architectures (front wheel-drive at Chrysler and rear-wheel drive at Mercedes, so only a single vehicle was ever shared between the two firms: the 'Crossfire', a rebadged Mercedes SLK). The two firms had radically different brand identities and market positioning.

The key message from these automotive mergers is clear: a merger, acquisition or alliance needs to go beyond short-term financial considerations. Cash from a new parent or partner may be necessary to address liquidity problems and investment needs but unless there are synergies that deliver either increased revenues or reduced costs, then continuing financial weakness can be expected, as GM found with Saab. It is this measure that one needs to apply to assess the prospects for other mergers and acquisitions, such as Volvo-Geely and Tata-Jaguar/Land Rover.

	Renault	Nissan
Core capabilities	Design	Manufacturing
Strong Market presence	Western Europe Eastern Europe Latin America	Japan North America Australasia China
Low or no market presence	USA Asia (all markets)	Latin America Eastern Europe
Product line-up and architecture	Front wheel drive Low degree of platform sharing Strong presence in commercial vehicle market No trucks or 4x4	Generally front-wheel drive Low degree of platform sharing Several SUVs and light truck models Limited presence in commercial vehicle market
Brands	Renault (volume) Dacia (entrance-level)	Nissan (volume) Infiniti (luxury)

TABLE 1: AREAS OF COMPLIMENTARITY IN THE RENAULT-NISSAN ALLIANCE

In the case of GM-Saab, although the pieces were there on paper, in practice the fit proved problematic. One can speculate what might have happened had the Pang Da – Youngman acquisition gone through. Although the Chinese partners may have had the cash that Saab lacked, and the ability to take Saab products to the Chinese market, they clearly lacked product development and production expertise, or experience of Saab's current major markets. Without these, success would have proved elusive.

Did Spyker really have a chance?

There is little doubt about Muller's good intentions when Spyker bought Saab in early 2010. A lightly capitalized entrepreneurial firm taking on a long-established and unprofitable car maker was always going to be a risky proposition. But was there a sound plan for taking the business forward? The 'Saab revival plan' that had been developed by Saab management in late 2009 foresaw an expansion of Saab to 150,000 units per annum in collaboration with a Chinese partner. This plan was subsequently rejected by both GM and by Koenigsegg (a potential buyer of Saab at the time), on the grounds that it was not economically viable. When Spyker took over Saab early 2010, Muller publicly endorsed this

revival plan and did not propose an alternative. It thus appears somewhat naive of Spyker to assume that Saab could be developed and sustained on the basis of a plan that others had considered and rejected.

Production restarted under Spyker, but the necessary sales failed to materialize and Saab quickly burned through its cash until it could not pay its suppliers or even its staff. By September 2011, short-term liabilities mounted to 6.94bn SEK (€775m), compared to liquid assets of 40m SEK (€4.47m). We estimate debt to suppliers to have been €260m at this point^{lxxi}.

The launch of the new 9-5 in 2010 had offered real hope for Saab, but there was a very small window during which sales had to take off and economic levels of production be achieved before the cash ran out. The new 9-5's poor sales were partially driven by the global financial crisis, and were not helped by uncertainty over the company's future, which sparked concerns over residual values and future servicing and support of Saab cars.

Muller's plans, such as they were, also contained a number of contradictions.^{lxxii} On one hand, he declared his aim to be to restore the company's fortunes by making 'Saabs feel like Saabs again', yet all he had were three models developed by GM: the 9-3 (7 years old), the new 9-5, and the 9-4 (to be launched in 2011 and produced by GM in Mexico). It would have taken another full development cycle of 5-7 years to have 'all-new Saabs' to sell. Given this, was there any real chance of sales of current models picking up far enough and fast enough to fund future developments?

Could China have saved Saab?

With the recent growth in BRIC (Brazil, Russia, India, China) countries, many firms in these emerging countries have rapidly developed by exploiting growing local demand. It is not surprising that BRIC firms have developed global aspirations: Tata's US\$ 2.3 billion acquisition in 2008 of Jaguar Land Rover is a good example, as is Shanghai Automotive Industry Corporations (SAIC)'s bid for Rover in 2004.

In the case of China, many Chinese firms are growing on the back of soaring domestic sales, but are eager to develop or acquire technology and brands. Buying stakes in ailing Western firms appears a quick and easy way to achieve this, but also brings several challenges for Chinese acquirers.

Acquisitions, especially in the auto industry, are subject to China's wider economic policy. Since the mid 1990s the China has been attempting to rationalize its fragmented automotive industry with 100+ auto producers into a handful of champions and develop it as a 'pillar industry' of the Chinese economy. This has implications for Chinese auto firms who wish to engage with non-Chinese ones. China's Central Government implements its automotive policy through the National Development and Reform Commission (NDRC), whose approval is required for any merger or takeover.

The reasons for choosing the auto industry as a pillar industry are not difficult to see. An automobile is composed of more than 10,000 parts and components; the automotive industry is related to many other industries such as metallurgy, petroleum, chemistry, coal, light industry, electronics, and textiles, and it China reasons that the development of an automotive industry will encourage Chinese enterprises in many sectors to specialise and better co-ordinate their efforts^{lxxiii}.

Initially, China's approach was to attract foreign vehicle manufacturers to establish local production bases in China, under the condition of forming a joint venture with a local state-owned enterprise (SoE). This policy saw a rapid growth in production capacity, and local sourcing, but it did not produce the

desired product development capabilities. From the Chinese side there also was considerable disappointment at what was seen as the transfer of outdated models to China by Western firms (e.g. the VW Santana), with little technology transfer and capability development taking place in new product development.

China's behaviour with respect to the UK's Rover car company is an interesting illustration of this. Rover was dissolved in 2005 and Nanjing Automotive acquired the production assets and rights to produce the Rover 75 model. However, Shanghai Automotive (SAIC) had already acquired some of Rover's intellectual property for the Rover 25 model and the K-series engine in 2004, in preparation for an acquisition that subsequently never took place. Thus, what was left of Rover at the time of its final collapse was effectively no longer able to produce cars. The Chinese Central Government intervened, and ordered a merger between Nanjing Auto and SAIC in 2007 which meant that production of existing Rover models could start under a new 'Roewe' brand in China (the 'Rover' brand having been protected by Ford from the days when it had owned Land Rover). Subsequent models have been developed in collaboration with the British engineering firm Ricardo. Two new Roewe models have been launched, including the Roewe 550 (MG6), and Roewe 350 models, which are both new developments. These cars are also offered for export.

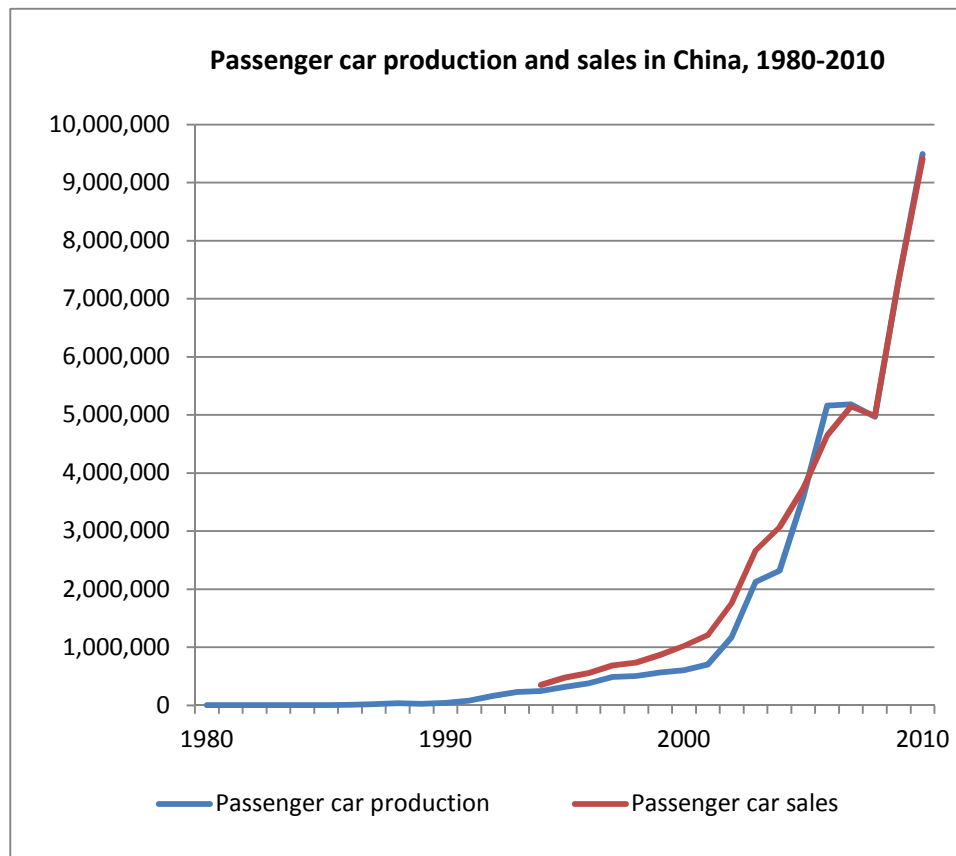


FIGURE 4: PASSENGER CAR PRODUCTION AND SALES IN CHINA, 1980-2010. SOURCE: WARD'S.

The Chinese domestic market has grown very rapidly, particularly since 2000, as the chart above illustrates. China's objective has turned away from simply developing production capacity in China, towards developing a set of car producers (the so called 'young tigers') that can compete globally.

Under this revised policy, attention has shifted away from joint ventures with foreign firms, towards developing local capabilities. Following the lessons of several failed acquisitions (e.g. the acquisition of faltering Ssangyong by SAIC) there is a growing concern that taking over failing foreign auto firms is not a good route forward.

As Williamson and Raman (2011) describe, there have been several common mistakes in Chinese acquisitions of foreign firms in all industries, not just the auto industry. First, Chinese firms have pursued inexpensive deals with unprofitable businesses that often were lacking any economic case for continuation. Pang Da and Youngman's pursuit of Saab could well fit into this category. Secondly, there has been a focus on companies whose value consisted mostly of brands, systems, culture and people - all of which are difficult to integrate across borders^{lxxiv}.

Learning from past mistakes, the NDRC now actively discourages deals that are not deemed to be in the national interest of developing globally competitive car firms. In 2009, the proposed acquisition of GM's Hummer by Sichuan Tengzhong Heavy Industrial Machinery was blocked on the grounds that the Chinese acquirer had insufficient capital and experience. In this context, it is unsurprising that Chinese authorities were not supportive of the various deals proposed for Saab. Neither the Hawtai and the Pang Da-Youngman acquisitions of Saab would obviously have created a globally competitive car firm. The NDRC never formally endorsed the Saab acquisition by the Youngman-Pang Da consortium in public, although 'in principle' support was allegedly voiced informally.

Still, one might ask what the Pang Da and Youngman's purchase of Saab might have achieved had it gone ahead, both for Saab and for Pang Da and Youngman? For Saab, the most immediate benefit would have been the infusion of cash to meet its outstanding liabilities, which - taking an optimistic view - could have restarted production in the near term. Furthermore, there was a promise of investment to raise production to 200,000 units. The other great opportunity for Saab was better access to the Chinese car market, which is the second-largest in the world, and still the fastest growing. Through Pang-Da's dealer network this access might have been facilitated in a reasonably short period of time.

On the other hand, in Saab's main established markets (the US, UK and Sweden) the 9-5 had already largely proved to be a market failure, unable to generate sufficient sales to allow the company to break-even, and this was before a break in production of several months and associated bad press. Even taking a lasting damage to the brand aside, the press coverage of 2010 and 2011 put enormous strain on residual values of Saab vehicles. As a result it became virtually impossible to sell Saab cars, and at times even residual value guarantees had to be granted to buyers, making the sales deeply risky and unprofitable for Saab. Against this backdrop it seems questionable whether an increase in production capacity would have resulted in any major improvement of Saab's financial position.

Further down the line, a key assumption behind any merger is that firms will be able to share technology and generate economies of scale. Here it is even more questionable whether there would have been any synergies between Saab and Youngman, which to date has built buses (mostly under license) and only recently started producing entry-level passenger cars that were co-developed with Lotus Engineering. In our view, there was little or no synergy in production activities.

So what was in it for the Chinese partners? This question is harder to answer, as both Pang-Da and Youngman played their cards close to their chests. For one, the new Saab 9-5 offered a quick and economical access to up-to-date (GM-based) vehicle technology, as well as a globally recognised automotive brand. Both are rare in the Chinese car market, and generally expensive to acquire.

The wider question however is the same as for Saab: would it make sense to retain a factory in Sweden) if the centre of gravity moved to China? SAIC retained Rover's main assembly plant in Longbridge, UK, but operates only a token assembly operation there.

In this respect, it will be interesting to follow the Volvo-Geely collaboration, which so far has been stable, despite not offering any economies of scale in terms of sourcing and product development. While there is some discussion on sourcing in China and collaborating on selective vehicles, the main advantage for Volvo may well be the access to the Chinese market, where it hopes to sell 200,000 cars annually. Indeed, in November 2011, Volvo announced a big increase in employment ahead of a planned increase in output.

A fundamental tenet of a successful merger is synergy between the partners, making the merged entity stronger than both individual firms. Whilst the provision of cash and capital is often the main objective for the weaker partner in the short-term, this is a necessary but not sufficient condition for success. What will make or break a merger are synergies in sourcing, product development and market access, and it was never clear that a Saab/ Youngman/ Pang Da combination could deliver this.

A strong brand but a weak business?

A big piece of the puzzle and the tragedy of the Saab story is how a company with such a strong brand and a loyal and enthusiastic following could so resoundingly fail to be a commercial success. One view, particularly prevalent amongst die-hard Saab enthusiasts, is that the demise stems from brand mismanagement on the part of General Motors. Whilst there is some substance to this claim, our view is that this interpretation is too simplistic and that the roots of Saab's commercial failure predate GM's period of stewardship.

That Saab had a strong, distinctive brand is inarguable. Marketers have repeatedly used Saab as an example of a strong 'brand community', along with brands such as Macintosh^{lxxv}, as examples of brands that attract particularly loyal and dedicated followers. But what is the essence of the Saab brand?

There is not a simple answer to this, partly because the brand itself has subtly shifted and evolved over time. The heritage of Saab cars as part of an aircraft and defence company is a significant part of the Saab identity. This was originally manifested in a very tangible way in the aerodynamic styling of the first Saab, the 92. Subsequently Saab's aviation roots were expressed in other ways, some perhaps more cosmetic than others such as easy-to-read instrumentation and towards the end, through the so-called 'black panel', a device to shut off all but essential instrumentation at night to reduce glare. In the mid 1980s, advertising campaigns in the UK, one of Saab's main markets, mixed 'Top-Gun' style imagery of Saab Viggen jet fighters and their pilots with that of Saab 900 and 9000s and their drivers. Tag lines included 'Nothing on Earth Comes Close' and 'Why drive a car when you can pilot a Saab?' Recent campaigns in the US used the tagline 'Born from Jets' for the same purpose^{lxxvi}.

Rally success in the late 1950s and 1960s conveyed a message of serious performance and handling ability. Intertwined with this were traditional Swedish values of solidity, robustness and safety, especially from the Saab 99 onwards; here was a car that not only was fast, but also safe and that lasted. Moreover, for a period at least, many Saabs (and their siblings at Volvo^{lxxvii}) were built not on the same moving assembly lines as mass-produced marques, but by semi-autonomous work groups, conveying messages of craftsmanship and quality. The relationship between craft production and quality is itself more complicated than it appears, in that the discipline, structure and standardization of

mass production methods can be rather helpful to product quality. But in the minds of many car buyers, craft production equates with product quality, character and individuality, all of which can be important elements of a brand.

Owners of Saab 95 and 96s used to flash their lights at each other and to wave at other Saabs as they passed on the road. In the UK, this practice faded as 95s and 96s were superseded by later and more upmarket models, but it continued for longer in some parts of the US^{lxxviii}.

As Saab moved progressively upmarket in the 1970s and 1980s with the introduction of the 99, 900 and 9000 models, other attributes became more salient. The introduction of turbo-charging in the late 1970s (though in fact owing more to Saab's relationship to Scania trucks than to the aircraft division) established the brand as technologically leading-edge, and reinforced the high performance attributes of rally success with messages of the technological sophistication. The Swedish emphasis on safety remained salient, with 1980s advertising lines such as "The only reason for making a car this comfortable is that it makes you a better driver" and "In any other car, this much power would be irresponsible."^{lxxix}

Attracting a loyal, enthusiastic following around a brand is one thing; making money from it, especially to a level to support adequate product renewal, is another. New vehicle development is an extremely expensive business and so development costs have to be amortized across many vehicles. So if annual sales are not high, one answer is not renew models so frequently – something that brings problems of its own when technology is advancing rapidly and when changes in tastes and styling can quickly render a product passé. Although the Saab brand community was strong, it was not large, nor was it prepared to pay the ultra-premium prices that could support reasonably frequent product renewals in the absence of high volumes as Porsche can, for example.

Consequently, when GM took on Saab it faced some acute dilemmas. It could try to broaden the marque's appeal and raise volumes, which by definition would mean adjusting Saab's identity in order to appeal to new customers. Or it could try to reduce model renewal costs by using technology (platforms, engines and other components) already developed for use in other GM models. The risk of this was that the 'Saab-ness' of the brand was diluted, eliciting protests from purists that the cars were not 'real' Saabs.

GM attempted both of these approaches. Sadly, it appears to have suffered the negative consequences of both without realizing the benefits of either. Volumes did indeed rise to around 125,000 units a year from the 80,000 when GM took over, but did not attain the levels anticipated, and never exceeded the 1987 peak of 134,000 units. The cars failed to excite either Saab diehards or attract significant numbers of new customers.

One of the keys to success in the auto industry is to have synergies under the skin, but uniqueness and distinctiveness of identity. GM was partially successful in the former, but not in the latter. Was it mission impossible?

The Volkswagen Group shows that it is not impossible to appeal to very different segments of the market whilst sharing a lot of technology and componentry under the skin. Starting in the 1990s VW put the Audi A3 and TT, VW Golf, Bora and New Beetle, Seat Toledo and Skoda Octavia all on the same A04 platform^{lxxx}, and many other models across the VW, Seat, Skoda and Audi brands share platforms, engines and components.

In Saab's case, the platform donated to Saab for both the 1993 900 and the 1998 9-5 models was shared with the Vectra – a vehicle engineered for a rather different segment of the market, and not

necessarily embodying Saab's traditional design and brand attributes. On many dimensions the histories and corporate and engineering cultures of Saab and GM could not have been more different – an inherently difficult place from which to start. As things became more desperate, GM also attempted to fill gaps in Saab's product line up by placing Saab badges and identity-items such as trim and facias on Subaru and Chevrolet 4x4 models (the so-called 'Saabarus'), in much the same way as GM now badge what were formerly Daewoo vehicles as Chevrolets. But brand is deeply rooted in design and manufacture and cannot be easily divorced from this^{lxxxix}; treating a brand as little more a cosmetic label can be deeply damaging, and so it proved with Saab.

The vehicles produced by Saab under GM were not particularly bad cars; they were just not authentic enough for Saab's particularly individualistic and 'quirky' brand values. Most high-volume parent auto companies struggle with this issue with their premium brands, and arguably Ford had exactly the same challenges with companies in its Premium Automotive Group (Volvo, Jaguar, Land Rover) before it sold them to Geely and Tata respectively. Ford's match with Volvo was probably the best, but criticism of how Ford handled product development at Jaguar (diluting the brand's 'Jaguariness') was very similar to the criticism that GM faced with Saab.

VW demonstrates that running multiple brands on the back of shared technology is not an impossible ideal. Equally, BMW has proven with Mini that it is possible to grow strong specialist brands even within the context of a larger group of companies^{lxxxix}. But for Saab and GM, this proved to be a stretch to far. The comment of a motoring journalist on the Saab brand captures the situation nicely: 'Much loved, seldom bought'.

MG Rover and Saab - Is history repeating itself?

The last significant auto producer to go out of business was the UK's MG Rover, which failed six years before Saab, in 2005. Given the amount of excess production capacity in the global auto industry, the surprising thing is not so much that auto firms go bust, but how infrequently this happens. One reason for this is that auto firms, particularly large ones, are major contributors to national economies. This is why emerging economies are often keen to develop their own auto industries and why mature economies are reluctant to relinquish the ones they already have. As we have seen, part of the difficulty that Saab's Chinese suitors faced in obtaining approvals from the Chinese Government stemmed from China's determination to establish a globally competitive auto industry. This means restricting the number of auto producers operating in the country in order to build up critical mass and economies of scale on the part of a few champions.

THE ROVER STORY

Rover had a troubled history for the best part of 40 years leading up to its eventual collapse in 2005. It was formed under government pressure as the British Leyland Motor Corporation (BLMC) in 1968 from a collection of previously independent producers of varying technical and commercial strengths, in an attempt to create a UK national automotive champion. However, the exercise revealed the fundamental fallacy of trying to create a strong company by putting together several weak ones. In addition to all the weaknesses of the previously independent companies, the merged entity now had to manage greatly increased scope and complexity and faced a huge integration and consolidation challenge. The proved to be too much, and the company was taken into public ownership in the mid 1970s. Volumes fell from a peak of over a million units a year to around 400,000 units, where they stabilized for a number of

years. Even this reduced figure was about triple what Saab ever achieved, albeit spread across many more models.

Rover enjoyed a successful collaboration with Honda from the late 1970s to the mid 1990s in which Honda provided designs and production know-how. This revived the company's fortunes and it was privatized through its sale to British Aerospace in 1987. Ironically, at the time of the sale there many commentators drew parallels with Saab Cars, then still part of an aerospace and defence conglomerate itself, and spoke of the synergies between the aerospace and automotive operations. By the late 1980s BLMC had been through several name changes and was using the Rover brand on its cars, part of an attempt to position itself as a moderate volume, semi-premium producer.

In 1994, Rover was bought by BMW. Honda ended collaboration at that point, which in due course revealed the true extent of Rover's dependency on Honda's know-how. BMW initially adopted a hands-off management approach to Rover, but as things started to go downhill became more interventionist. An executive model, the Rover 75, was launched in 1998 but despite being reasonably well received by the motoring press failed to sell as expected. In 2000, BMW sold Land Rover to Ford, the Rover-branded volume cars business to a consortium of business men (the Phoenix Consortium) for £10, but retained the new Mini, which was just about to launch. The Mini has subsequently been a great sales success for BMW.

In 2000, Rover Cars thus found itself with a partial and aging model line up, apart from the quite new, but poorly-selling 75, no product development capability and precious little capital, in an industry beset by over-capacity. This was not unlike the situation faced by Saab in 2010. Like Muller with Saab, from the outset, Phoenix attempted to find a partner for Rover, but were unsuccessful in doing so. As matters became more and more desperate, Rover bought in a cheap economy model from Tata of India, which it rebadged as 'City Rover', sold much of its remaining intellectual property to the Chinese auto company SAIC and even sold its own site to a property company and leased it back. When the end finally came, Rover's remaining assets were sold to another Chinese company, Nanjing Automobile. This did not include the Rover name itself, which had been sold to Ford along with Land Rover in 2000. Consequently Nanjing, who later merged with SAIC, was forced to create a Rover-sounding name for its vehicles - Roewe.

Production of MG vehicles restarted in the UK in 2008 with very small volumes of the MG TF LE500 sports car.^{lxxxiii}

SAAB AND ROVER COMPARED

How do the stories of Saab and Rover compare?

First, Saab and some parts of what became Rover, via BLMC, both had strong, niche brands that struggled with issues of scale. For example Jaguar and the original Rover car company itself both occupied the premium end of the market, had distinct identities and modest volumes before their eventual assimilation into BLMC. True, their identities were not the same as that of Saab, but some of the issues they faced were similar. However, Saab was spared the ordeal of amalgamation with a multitude of other equally weak car companies, with very different brands and positions in the market, something which did lasting, and in our view fatal, damage to the stronger parts of the BLMC/ Rover Group.

Secondly, Saab was part of an aerospace company for over 40 years and was successful in leveraging this heritage in its branding and identity, particularly in the 1980s prior to GM acquiring an interest.

Although Rover became also part of an aerospace company, British Aerospace, from 1988-1994, successive changes of name, a bad press due to atrocious industrial relations and poor product quality in the 1970s gave Rover a legacy that was very difficult to shake off, and which impeded its attempts to position itself at the premium end of the market.

In Saab's case, the problem was that its niche, although reasonably clear (at least in the 1970s and 1980s) was insufficiently large to give it the volumes necessary to generate the funds it needed for product renewal. This drove Saab towards GM, where it failed find ways to resolve the inherent contradiction between being a quirky, individualistic European brand whilst sharing design, engineering and components with the world's largest, and American-owned, car company. Rover actually found a good fit in its partnership with Honda and was able to capitalize on Honda's resources without relinquishing its own identity. One can only speculate about how different things might have been if Saab had been able to do the same.

Thirdly, in different ways both Saab and Rover showed how difficult it is for corporate parents, configured to operate in a particular way, to deal effectively with niche brands that they acquire. GM struggled with Saab as did BMW with Rover, although BMW was able to make a great success of Mini, albeit as a standalone brand.

Finally, perhaps the closest parallels between the Saab and Rover came in the final years in each case. Both were disposed of by their corporate parents, GM in Saab's case, BMW in Rover's. Both fell into the hands of entrepreneurial capital who, inexplicably, believed that they could succeed where many others had failed. Both had aging model line-ups, plus one new or fairly new model – the Saab 9-5 and Rover 75. However, neither of these were sales successes, despite being reasonably well received by the motoring press.

In their final months, hopes for Rover and Saab were pinned on Chinese capital. It delivered in neither case, although Rover lives on in 'Roewe' and in small-scale MG production in the UK. A similar fate might well await what remains of Saab when the remaining production equipment is dismantled and sold.

IV/ WHO KILLED SAAB AUTOMOBILE?

Often dubbed the 'company with seven lives' for its ability to survive against the odds, the final two years for Saab were very turbulent indeed, with two restructuring efforts, successive rescue plans, and a considerable amount of drama.

The flurry of rescue plans, over several months, created several false dawns – hopes raised, only to be dashed. That so many people – the authors of this report included – wanted Saab to succeed in many ways distracted from the grim reality, namely that Saab faced serious challenges at many levels: in the immediate term it had to restart production (which had been halted for many months), requiring all suppliers to resume their supply to Saab. Assuming production could indeed be restarted, the next short-term challenge would have been to find buyers for the cars, overcoming concerns of servicing and residual values. Then, in medium-term, the cars would have to be sold at a profit to cover the operating costs of Saab, stopping it from running up further losses. Then, assuming all these points were achieved, the long-term challenge was to grow the production volume in order to fund new product development programmes. Only then would Saab have been truly 'saved': clearly, an enormous undertaking in today's competitive and scale-driven automotive industry.

We set out in this report to investigate who is - partially or fully - responsible for the death of Saab Automobile. Although it was Saab's unions who (very reluctantly) started bankruptcy proceedings, and Guy Lofalk who applied to end the restructuring three months later, neither they nor any other creditors carry any significant responsibility. Despite his unorthodox approach to business and his final petition for bankruptcy, neither, we argue, is Victor Muller. Muller came in with good, albeit overly optimistic, intentions but a glaring lack of new partners, capital and ideas. In retrospect his short stint at Saab will be seen as naïve at best, considering that weak underlying economics of Saab in early 2010.

Many fingers will point at GM, because they blocked the sale of Saab to Chinese interests. Yet, the conditions that came with the sale of Saab to Spyker by GM were, one presumes, clear and understood. Did Muller expect to make a go of it, without requiring majority shareholder from outside? Did GM change its mind in response to Lofalk's intervention? Or did Muller simply not fully take on board the implications of GM's restrictions? Either way, for GM it did not make any commercial sense to allow its technology^{lxxxiv} to go a potential competitor in its second most important market, China, where its Buick brand (that offers vehicles very similar to Saab models) accounts for half its sales, as Table 2 illustrates.

Passenger car sales in China	2010	% Chg.	2009
Volkswagen	1,572,542	27.8	1,230,328
GM	1,037,702	42.5	728,253
Hyundai	583,203	11.9	520,964
Toyota	574,904	13.0	508,778
Nissan	563,078	22.6	459,263
BYD	517,087	15.3	448,397
Honda	483,560	2.7	470,895
Chery	479,255	16.0	413,116
Zhejiang Geely	416,168	26.5	329,104
Peugeot Citroen	373,366	38.3	270,006
Ford	299,055	32.2	226,141

TABLE 2: PASSENGER CAR SALES IN CHINA, BY MANUFACTURER, IN 2009 AND 2010. SOURCE: WARD'S

The real events that sealed Saab's fate, we argue, date much further back. As the world changed around it in the 1970s and 1980s, Saab's owners failed to see this, or if they did, failed to respond appropriately. By the late 1980s and into the 1990s, the game was not so much about saving Saab, as about disposing of it. GM must have seemed a plausible parent – after all, it was the largest car company in the world – but this bred 20 years of friction between integration and independence. While GM was pushing stodgy engineering onto Saab and not fully understanding the Saab brand, Saab was refusing to bow to GM's interference. The result was a company that failed to grow out of its niche, a niche that was itself under attack from strong competitors, particularly Audi. Following the de-merger

from GM, Saab was no longer viable as an independent firm, and in our view the government intervention that was frequently called for would not have prevented the failure, but may have delayed it at best.

We remain very sceptical about any significant complementarity there could have been with the Chinese partners that were proposed by SWAN. From the perspective of Saab, the Chinese partners would have brought cash in the short-term, and possibly could have provided a sales channel into China. Beyond that, the tie-up with Youngman (which produces its own passenger cars for the entry-level segment, co-developed with Lotus Engineering in the UK) offered no technological benefit or scale economies. Furthermore, if Saabs were eventually to be manufactured in China, what interest any Chinese firm would have in keeping a car factory in Sweden? From the perspective of the Chinese firms, the tie-up would have made some sense: new to the automotive industry, there is a great hunger for technology and brand. Saab could have offered both, at a discount price, had GM allowed it to.

And while there will be a lot of speculation as to whether the Chinese investment could have made a difference, at the most fundamental level the problems that brought Saab to its knees date much further back: it was a missed opportunity for Saab to be for GM, what Audi became for VW -- a fully integrated brand with a clear, distinct premium image. And here both GM and Saab are to blame: GM for not understanding Saab, and Saab for resisting the integration with GM Europe, which in the long term destroyed its economic basis in a scale-driven automotive industry. However we also acknowledge that the particular attributes of the Saab brand made this a very tricky problem: to be economically viable, Saab had to grow. But if it grew, it would undermine the inherent value of the Saab brand. Essentially Saab fell victim to its own contradictions.



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BIBLIOGRAPHY

- Bayley, S. (1986) 'Marketing Vorsprung durch Technik'. In S. Bayley, *Sex, Drink and Fast Cars: The Creation and Consumption of Images*, Chapter 7, pp. 87-112.
- Chatterton, M. (1980) SAAB: The Innovator. Newton Abbot: David and Charles
- Fisher, A.B. (1985) 'Courting the well-heeled car shopper', *Fortune Magazine*, 5 August.
- Holweg, M. and Pil, F. (2004), 'The Second Century: Moving beyond Mass and Lean Production in the Auto Industry', Cambridge, MA and London, UK: MIT Press
- Holweg, M., Davis, P., and Podpolny, D. (2009) 'The Competitive Status of the UK Automotive Industry', a report to the New Automotive Innovation and Growth Team, Department of Business Innovation and Skills. Published by PICSIE Books, Buckingham.
- Holweg, M., Luo, J., and Oliver, N. (2009) 'The Past, Present and Future of China's Automotive Industry: A Value Chain Perspective', *International Journal of Technological Learning, Innovation and Development*, Vol. 2, No1., pp. 76-118
- Holweg, M. and Pil, F.K. (2009) 'A break from the past: Volvo and its malcontents.' In: Freyssenet, M. (ed.) *The second automobile revolution: trajectories of the world carmakers in the XXI century*. Houndmills: Palgrave Macmillan, pp.353-365
- Nuttall, W.J., Holweg, M. and Leybovich, M. (2011) 'Too big to fail — Lessons for today and the future from British industrial policy, 1960–1990', *Technological Forecasting and Social Change*, In Press. doi:10.1016/j.techfore.2010.11.003
- Ingrassia, P. (2011) *Crash Course*. New York: Random House.
- Muniz Jr., A.M.; O'Guinn, T.C. (2001) 'Brand community', *Journal of Consumer Research*, Vol. 27, No. 4, pp.412-432
- Oliver, N., Schab, L. and Holweg, M. (2007) 'Lean principles and premium brands: conflict or complement?' *International Journal of Production Research*. Vol. 45, No. 16, pp. 3723-3739.
- Oliver, N., Holweg, M. and Carver, M. (2008) 'A systems perspective on the death of a car company'. *International Journal of Production and Operations Management*, Vol. 28, No. 6, pp. 662-583.
- Olson, B. (1987) *The Saab-Scania Story*. Stockholm: Streiffert and Co.
- Pil, F. and Holweg, M. (2004), 'Linking Product Variety to Order-Fulfilment Strategies', *Interfaces*, Vol. 34, No.5, pp. 394-403
- Štrach, P. and Everett, A.M. (2006) 'Brand corrosion: mass-marketing's threat to luxury automobile brands after merger and acquisition', *Journal of Product & Brand Management*, Vol. 15, No. 2, pp.106 – 120
- Williamson, P.J. and Raman, A.P. (2011) 'How China reset its global acquisition agenda.' *Harvard Business Review*, 89(4): 109-113

APPENDIX: KEY STATISTICS 2000-2010

		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Production	Units p.a.	132,803	123,755	125,045	130,034	128,826	127,593	135,365	125,397	90,281	20,791	32,048
Workforce	No of employees	8,722	7,619	7,444	6,226	5,580	5,137	4,689	4,338	4,129	3,241	3,833
Financials	Revenue (MSEK)	23,660	23,830	23,547	23,613	22,669	21,082	24,208	21,722	15,641	6,080*	819
	Inventory on hand (MSEK)	1,319	1,205	1,235	1,091	899	1,203	1,286	1,360	2,322	1,434	
	After tax profit (MSEK)	-341	12	-4,368	-4,767	-3,503	-4,120	-3,185	-2,122	-4,444	3,929	-218
	After tax margin (%)	-1.4	0.1	-18.6	-20.2	-15.5	-19.5	-13.2	-9.8	-28.4	64.6	-26.6

Sources: Annual reports; 2010 data from Spyker annual report.

* Sales of IPR to BAIC contributed to the rise in revenues in 2009.

ENDNOTES

- ⁱ Olson (1987)
- ⁱⁱ Olson (1987)
- ⁱⁱⁱ Oliver, Holweg, Carver (2008)
- ^{iv} Chatterton (1980)
- ^v Bayley (1986)
- ^{vi} Audi has used the slogan ever since 1971.
- ^{vii} Bayley (1985)
- ^{viii} Fisher (1985)
- ^{ix} Data from www.saab.com
- ^x Source: www.saab.com
- ^{xi} Strach and Everett (2006)
- ^{xii} Strach and Everett (2006)
- ^{xiii} Source: www.saab.com
- ^{xiv} Source: www.saab.com
- ^{xv} Which? Car, 1998
- ^{xvi} Stach and Everett (2006)
- ^{xvii} Ingrassia (2011)
- ^{xviii} Strach and Everett (2006)
- ^{xix} The Economist, 29 January 2009)
- ^{xx} The Economist, 18 June 2009)
- ^{xxi} Strach and Everett (2006)
- ^{xxii} Ingrassia (2011: 175)
- ^{xxiii} Just Auto, 18 February 2011
- ^{xxiv} Just Auto, 19 February 2009
- ^{xxv} Just Auto, 23 February 2009
- ^{xxvi} Just Auto, 19 February 2011
- ^{xxvii} Just Auto, 19 May 2011
- ^{xxviii} Just Auto, 17 March 2010
- ^{xxix} Just Auto, 17 March 2010
- ^{xxx} Just Auto, 12 January 2010
- ^{xxxi} Just Auto, 27 Jan 2010
- ^{xxxii} Just Auto, 2 Feb 2010
- ^{xxxiii} Source: <http://www.detectivemarketing.com/victor-muller-saabs-will-be-saabs-again/>
- ^{xxxiv} Strach and Everett (2006)
- ^{xxxv} Just Auto, 2 February 2010
- ^{xxxvi} Just Auto, 17 March 2011,
- ^{xxxvii} Just Auto, 3 March 2010
- ^{xxxviii} Just Auto, 10 June 2010
- ^{xxxix} Just Auto, 27 May 2011
- ^{xl} Just Auto, 24 June 2010
- ^{xli} The Independent, 13 June 2011
- ^{xlii} Car Magazine, 3 June 2010
- ^{xliiii} The Guardian, 13 November 2010
- ^{xliv} Just Auto, 4 August 2010
- ^{xlv} Just Auto, 12 August 2010
- ^{xlvi} Just Auto, 29 October 2010
- ^{xlvii} Just Auto, 29 September 2010
- ^{xlviii} Just Auto, 29 October 2011

- ^{xlix} Just Auto, 6 January 2011
- ^l Just Auto, 12 January 2011
- ^{li} Just Auto, 1 March 2011
- ^{lii} His contract specified that he could retire with 60 years on full benefits, which came to effect the day he resigned, so to many commentators his resignation was not necessarily a sign of his disagreement with Victor Muller. However, in June 2011 the two union representatives also resigned, sparking renewed rumours about dissent in Saab's board.
- ^{liii} Just Auto, 30 March 2011
- ^{liv} Just Auto, 1 April 2011
- ^{lv} Just Auto, 28 April 2011
- ^{lvi} Just Auto, 18 April 2011
- ^{lvii} Just Auto, 13 May 2011
- ^{lviii} <http://www.bbc.co.uk/news/uk-england-hampshire-15887821>, BBC News 25 October 2011
- ^{lix} Just Auto, 7 September 2011. See also the court application for 'Ansökan om företagsrekonstruktion' of September 7, 2011, which includes balance statements for Saab Automobile AB, and its subsidiaries.
- ^{lx} <http://www.saabsunited.com/2011/09/ttela-se-transcription-of-the-press-conference.html>
- ^{lxi} 'Exklusiv intervju: Muller tror inte på kineserna', Teknikens Värld, November 30, 2011
- ^{lxii} <http://www.reuters.com/article/2011/12/06/gm-saab-idUSN1E7B50LC20111206>, December 6, 2011.
- ^{lxiii} Statement by James Cain, GM spokesman
- ^{lxiv} 'Saab - Lofalk is ready to give up on the reconstruction', Dagens Industri, December 6, 2011
- ^{lxv} Victor Muller quoted on TTELA online, December 9, 2011
- ^{lxvi} Most of the growth over the past decades has been in the small car segment, the SUV and MPV segments, and more recently in the so-called 'cross-over' segments.
- ^{lxvii} Pil and Holweg (2004)
- ^{lxviii} Holweg et al. (2009)
- ^{lxix} Pil and Holweg (2004)
- ^{lxx} VW Golf, Bora, New Beetle, Seat Toledo, Audi A3 and TT, Skoda Octavia
- ^{lxxi} A balance sheet for Saab Automobile AB is provided in the application for creditor protection of September 7, 2011.
- ^{lxxii} A good account of Muller's management style is given in 'Cirkus Muller' by Jens Nordström (2011, Ekerlids)
- ^{lxxiii} Holweg, M. Luo, J, and Oliver, N. (2009) The past, present and future of China's automotive industry: a value chain perspective *International Journal of Technological Learning, Innovation and Development*
- ^{lxxiv} Williamson and Raman (2011)
- ^{lxxv} Muniz and O'Guinn (2001)
- ^{lxxvi} Many past Saab advertisements are available on Youtube:
<http://www.youtube.com/watch?v=yDnQ8wxzyD8>
<http://www.youtube.com/watch?v=PM3woO0AbCw>
http://www.youtube.com/watch?v=Wxeb_Nah1yY&feature=related
http://www.youtube.com/watch?v=NzMBrd_OEuQ&NR=1
- ^{lxxvii} Holweg and Pil (2009)
- ^{lxxviii} Muniz and O'Guinn (2001)
- ^{lxxix} Fisher (1985)
- ^{lxxx} Platform sharing did continue at VW under the successor platform, PQ35, until the concept was transformed into the 'Modularer Querbaukasten' (MQB) idea, which is an even more flexible type of platform that allows for both width and length of the vehicle to be altered.
- ^{lxxxi} Oliver et al. (2007)
- ^{lxxxii} Mini produces c.240,000 units annually in its UK factory in Oxford, UK as well as under contract at Magna Steyr in Austria.
- ^{lxxxiii} For a detailed review see Oliver, N., Holweg, M. and Carver, M. (2008)
- ^{lxxxiv} A specific point of contention was access by Youngman to GM's Phoenix vehicle platform. GM declared it would not approve any plan that involve Youngman. Without GM's approval, producing the 9-3 and 9-5 models would not be possible ad GM holds the licensing rights.
- ^{lxxxv} Cover image shows Saab 9-X Concept; courtesy of topspeed.com. Final picture courtesy of saabhistory.com